A. INTRODUCTION

As described in detail in Chapter 1, "Project Description," the proposed Lambert Houses project would result in an increment of 934 residential units and 21,610 gsf of retail over the No Action condition and the introduction of a new 86,608-gsf (500-seat) public elementary school on the Development Site Parcels 1, 3, 5, and 10 (see **Figure 12-1**). In addition, the proposed project would reintroduce the street grid in areas where streets had been demapped as part of the previous urban renewal plan. East 180th Street would be extended through the Development Site between Bryant Avenue and Boston Road as a privately owned street segment open to traffic and pedestrians, as would the segments of Bryant Avenue between East 179th and East 181st Streets that were previously demapped. The currently demapped portions of Bryant Avenue and East 181st Street would be restored as private thoroughfares for vehicular and pedestrian traffic and would provide accessory parking for the residents. The proposed project would reduce the overall on-site parking supply by approximately 265 spaces: the existing 375-space parking garage on Parcel 10 would be downsized by approximately 325 spaces to a 50-space rooftop parking lot on Parcel 10, and approximately 60 on-site parking spaces would be added along the newly created private streets on Parcels 1 and 3.

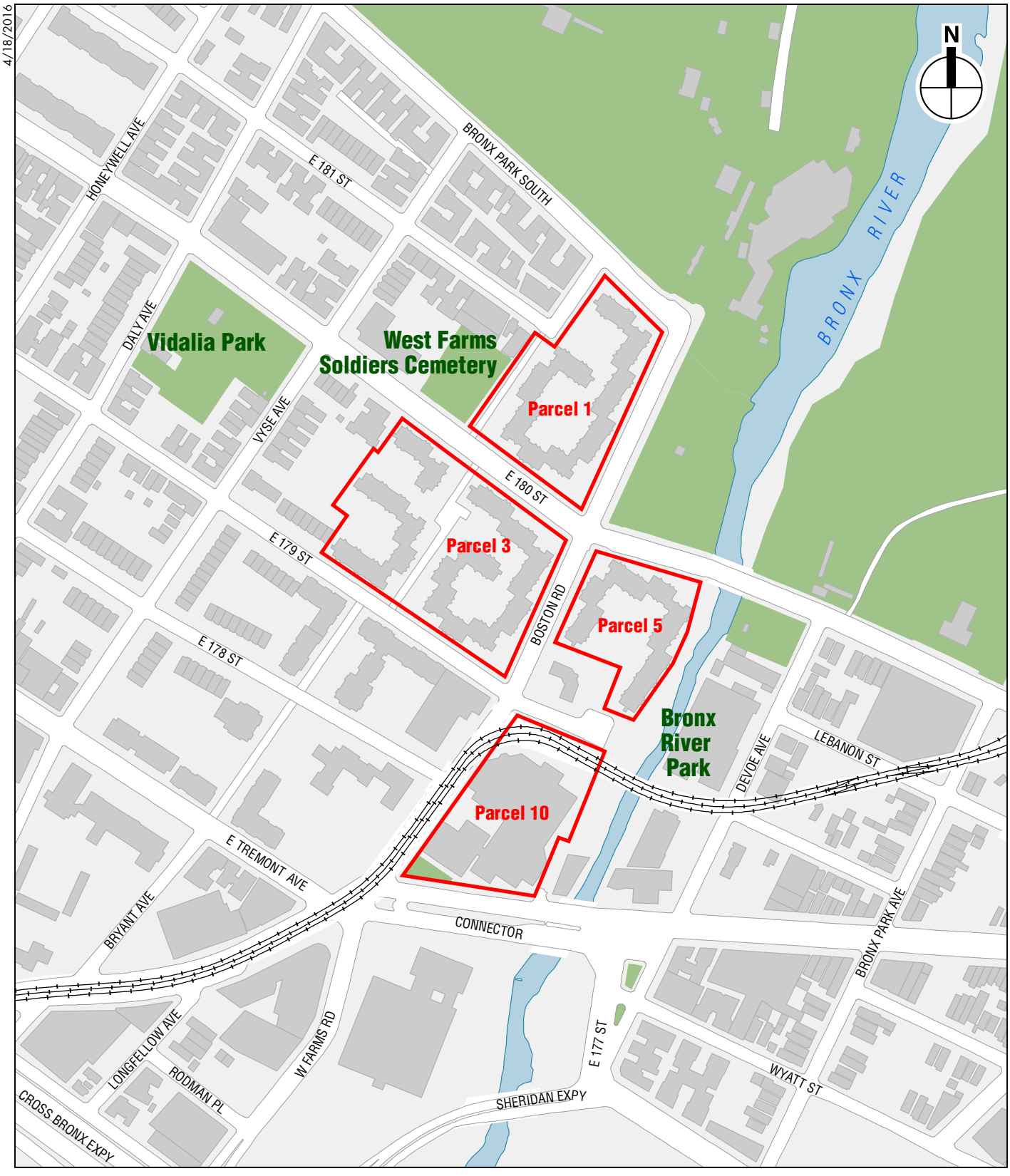
Table 12-1 provides a comparison of the future without and with the proposed project.

Table 12-1
Future With and Without the Proposed Project

Components	Existing/No Action	With Action	Increments
Residential (DU)	731	1,665	934
Retail (gsf)			
Supermarket	13,440	22,636	9,196
Local Retail	26,050	38,464	12,414
Total	39,490	61,100	21,610
Elementary School (gsf)	0	86,608	86,608
Students	0	500	500
Staff *	0	50	50
Parking Spaces			
Garage	375	50	-325
On-Street	0	60	60
Total	375	110	-265

Note: * Assumes 1 staff for every 10 students.
Source: Phipps Houses, 2015.

This chapter examines the potential effects of the proposed project on the study area transportation systems, and compares the future with the proposed project (With Action condition) to the future without the proposed project (No Action condition) in the 2029 analysis year to identify potential impacts, and, if warranted, determine feasible mitigation measures that would be appropriate to address those impacts (see Chapter 21, "Mitigation"). The travel



PHIPPS LAMBERT HOUSES

Lambert Houses Redevelopment Plan
Figure 12-1

demand projections, trip assignments, and capacity analysis contained in this chapter were conducted pursuant to the methodologies outlined in the 2014 *City Environmental Quality Review (CEQR) Technical Manual*.

PRINCIPAL CONCLUSIONS

TRAFFIC

Traffic conditions were evaluated at 16 intersections for the weekday AM, midday, and PM peak hours. In the 2029 With Action condition, there would be the potential for significant adverse impacts at seven intersections during the weekday AM peak hour, three intersections during the weekday midday peak hour, and five intersections during the PM peak hour.

Table 12-2 provides a summary of the impacted locations by lane group and analysis time period. Potential measures to mitigate the projected traffic impacts are described in Chapter 21, "Mitigation." As detailed in that chapter, all of the significant adverse traffic impacts—except potentially those identified for the East Tremont Avenue at Boston Road/West Farms Road, East Tremont Avenue at Devoe Avenue/East 177th Street, ~~and~~ East 177th Street at Sheridan Expressway, East 178th Street at Boston Road, and East 180th Street at Boston Road intersections during various peak periods—could be fully mitigated with standard mitigation measures such as~~, including~~ signal timing changes ~~and approach daylighting and restriping~~.

Table 12-2
Summary of Significant Adverse Traffic Impacts

Intersection		Weekday AM Peak Hour	Weekday Midday Peak Hour	Weekday PM Peak Hour
EB/WB Street	**NB/SB Street**			
East 180th Street	Boston Road	WB-LTR SB-LTR		WB-LTR SB-LTR
East 180th Street	Devoe Avenue	EB-TR		
East 178th Street	Boston Road	EB-LR		EB-LR
East Tremont Avenue	Daly Avenue	SB-LTR		
East Tremont Avenue	Boston Road/West Farms Road	WB-LTR NB-LTR (Boston Road) SB-DefL	WB-LTR NB-~~LT~~R (West Farms Road) NB-LTR (Boston Road) ~~SB-DefL~~ SB-LTR	WB-LTR NB-~~LT~~R (West Farms Road) NB-LTR (Boston Road) SB-DefL
East Tremont Avenue	Devoe Avenue/East 177th Street	NB-L	NB-L	NB-L
East 177th Street/Sheridan Expressway	Devoe Avenue/East 177th Street	SB-LT SB-R	SB-LT	EB-LTR SB-LT
Total Impacted Intersections/Lane Groups		**7/11**	**3/6**	**5/10**

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn, EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound.

TRANSIT

The preliminary screening assessment summarized below concluded that a detailed analysis of station elements at the West Farms Square/East Tremont Avenue subway station was warranted. Based on the results of the transit analyses, the proposed project would not result in any significant adverse impacts on circulation and control area elements at the West Farms Square/East Tremont Avenue subway station.

PEDESTRIANS

Weekday peak period pedestrian conditions were evaluated at key area sidewalk, corner reservoir, and crosswalk locations. Based on the detailed assignment of pedestrian trips, 15 sidewalks, 8 corners, and 6 crosswalks were selected for detailed analysis for the weekday peak hours. Significant adverse impacts were identified for ~~two segments of one crosswalk~~two crosswalks during at least one weekday peak hour: both the northern and southern segments of one of these crosswalks would be impacted during the weekday AM, midday, and PM peak hours, while the other crosswalk would only be impacted during the weekday AM and PM peak hours, as summarized in **Table 12-3**. ~~during the weekday AM, midday, and PM peak hours. **Table 12-3** provides a summary of the impacted locations by analysis time periods.~~

Table 12-3
Summary of Significant Adverse Pedestrian Impacts

Intersection	Pedestrian Element	2029 With Action		
		Weekday AM Peak Hour	Weekday Midday Peak Hour	Weekday PM Peak Hour
East Tremont Avenue and Boston Road	North Crosswalk	X		X
	East Crosswalk (North Segment)	X	X	X
	East Crosswalk (South Segment)	X	X	X
Total Impacted Pedestrian Elements		**~~2~~3**	**2**	**~~2~~3**

Note: X = Impacted.

Potential measures, including widening crosswalks, were identified to mitigate the projected pedestrian impacts, as described in Chapter 21, "Mitigation."

VEHICULAR AND PEDESTRIAN SAFETY

Crash data for the study area intersections were obtained from the New York State Department of Transportation (NYSDOT) for the period between ~~May 1,~~ 2011 and ~~April 30,~~ 2014. During this period, a total of 14~~3~~~~34~~ reportable and non-reportable accidents, zero fatalities, 15~~7~~~~43~~ injuries, and 5~~2~~~~43~~ pedestrian/bicyclist-related accidents occurred at the study area intersections. A rolling total of accident data identifies two study area intersections as high accident locations in the 2011 to 2014 period; these are East Tremont Avenue at Boston Road/West Farms Road and East 180th Street at Boston Road. A summary of the identified high accident locations, prevailing trends, project-specific effects, and recommended safety measures is provided in **Table 12-4**.

Table 12-4
Summary of High Accident Locations

High Accident Intersections	Prevailing Trends	Peak Hour Project-Specific Effects	Recommended Safety Measures
East Tremont Avenue and Boston Road/West Farms Road	None	Incremental trips: 175 vehicles and 320 peds	Restriping faded crosswalks
East 180th Street and Boston Road	None	Incremental trips: 130 vehicles and 340 peds	Restriping faded crosswalks

Source: NYSDOT crash data; May 1, 2011 to April 30, 2014. Crash data for the intersection of East Tremont Avenue and Boston Road/West Farms Road provided by NYCDOT for the period from January 1, 2011 to December 31, 2014.

In addition to the above recommended safety measures at the two high accident locations, the Bronx Vision Zero Pedestrian Safety Action Plan also identified priority corridors (including the East Tremont Avenue corridor in the study area) and intersections with the highest rates of pedestrian fatality and severe injury, and in combination with safety engineering improvement projects, community outreach and education, and police enforcement, seek to eventually eliminate pedestrian fatalities and severe injuries across all boroughs.

PARKING

The proposed project would displace 325 spaces from the existing 375-space Parcel 10 parking facility and would create 60 on-street parking spaces on the new private streets. The future parking supply on the Development Site would total 110 parking spaces. Accounting for the reduction in parking spaces at Parcel 10, a credit applied to the Parcel 10 parking facility for the relocation of existing parking demand to other areas, the creation of on-street parking spaces on private streets, and the incremental parking demand generated by the proposed project, the With Action public parking supply and utilization analysis shows that there would be parking shortfall during the weekday midday and overnight periods within the ¼-mile parking study area. However, based on the magnitude of available and total parking spaces within ½-mile of the project site (minimum of 670 out of more than 5,000 spaces), it is anticipated that the excess demand could be accommodated with a slightly longer walking distance beyond the ¼-mile radius. Furthermore, the proposed project is located immediately adjacent to multiple transit options, including the Nos. 2 and 5 trains, and multiple local bus routes (Bx9, Bx21, Bx26, Bx40, Bx42, and Q44). Therefore, the potential parking shortfall would not constitute a significant adverse parking impact.

B. PRELIMINARY ANALYSIS METHODOLOGY AND SCREENING ASSESSMENT

The *CEQR Technical Manual* recommends a two-tier screening procedure for the preparation of a "preliminary analysis" to determine if quantified analyses of transportation conditions are warranted. As discussed below, the preliminary analysis begins with a trip generation analysis (Level 1) to estimate the volume of person and vehicle trips attributable to the proposed project. If the proposed project is expected to result in fewer than 50 peak hour vehicle trips and fewer than 200 peak hour transit or pedestrian trips, further quantified analyses are not warranted. When these thresholds are exceeded, detailed trip assignments (Level 2) are performed to estimate the incremental trips at specific transportation elements and to identify potential locations for further analyses. If the trip assignments show that the proposed project would result in 50 or more peak hour vehicle trips at an intersection, 200 or more peak hour subway trips at a station, 50 or more peak hour bus trips in one direction along a bus route, or 200 or more peak hour pedestrian trips traversing a pedestrian element, then further quantified analyses may be warranted to assess the potential for significant adverse impacts on traffic, transit, pedestrians, parking, and vehicular and pedestrian safety.

LEVEL 1 SCREENING ASSESSMENT

A Level 1 trip generation screening assessment was conducted to estimate the numbers of person and vehicle trips by mode expected to be generated by the proposed project during the weekday AM, midday, and PM peak hours. These estimates were then compared to the *CEQR Technical*

Manual thresholds to determine if a Level 2 screening and/or quantified operational analyses would be warranted.

TRANSPORTATION PLANNING ASSUMPTIONS

Trip generation factors for the proposed project were developed based on information from the 2014 *CEQR Technical Manual*, U.S. Census Data, and other approved EASs and EISs—as summarized in **Table 12-5**.

RESIDENTIAL

The daily person trip rate and temporal distribution for the residential component are from the 2014 *CEQR Technical Manual*. The directional distribution is from the 2011 *Crotona Park East/West Farms Rezoning and Related Actions FEIS*. Journey-to-Work (JTW) data for the 2008-2012 U.S. Census Bureau American Community Survey (ACS) for Bronx census tracts 60, 359, and 361 were used to estimate modal splits for all three weekday analysis peak periods. The vehicle occupancies are from the 2008-2012 U.S. Census ACS for autos and from the 2011 *Crotona Park East/West Farms Rezoning and Related Actions FEIS* for taxis. The daily delivery trip rate and temporal and directional distributions are from the 2014 *CEQR Technical Manual.*

SUPERMARKET

The daily person trip rate and temporal distribution for the supermarket component are from the 2014 *CEQR Technical Manual*. As with the 2014 *Astoria Cove Development FEIS*, a 25 percent linked trip credit was applied to the supermarket trip generation estimates. The directional distribution and vehicle occupancies are from the 2014 *Astoria Cove Development FEIS*. The modal splits are from the 2002 *Washington Plaza EAS* and modified per the New York City Department of Transportation (NYCDOT). The daily delivery trip rate and temporal and directional distributions are from the 2014 *Astoria Cove Development FEIS.*

LOCAL RETAIL

The daily trip generation and delivery vehicle trip generation rates for the local neighborhood retail component are from the 2014 *CEQR Technical Manual*. In line with accepted City practice, a 25 percent linked trip credit was applied to the local retail trip generation estimates. The modal splits and vehicle occupancies are from the 2011 *Crotona Park East/West Farms Rezoning and Related Actions FEIS*. The temporal and directional distributions for all three weekday analysis peak periods are from the 2014 *CEQR Technical Manual* and the 2011 *Crotona Park East/West Farms Rezoning and Related Actions FEIS*, respectively. The temporal distributions for the delivery trips are from the 2014 *CEQR Technical Manual*.

Table 12-5
Travel Demand Assumptions

Use	Residential			Supermarket			Local Retail		
Total Daily Person Trip	(1) Weekday 8.075 Trips / DU			(1) Weekday 175.0 Trips / KSF			(1) Weekday 205.0 Trips / KSF		
Trip Linkage	0%			25%			25%		
Net Daily Person trip	Weekday 8.075 Trips / DU			Weekday 131.25 Trips / KSF			Weekday 153.75 Trips / KSF		
	AM	**MD**	**PM**	**AM**	**MD**	**PM**	**AM**	**MD**	**PM**
Temporal	(1)			(1)			(1)		
	10%	5%	11%	5%	6%	10%	3%	19%	10%
Direction	(2)			(4)			(2)		
In	15%	50%	70%	57%	50%	52%	50%	50%	50%
Out	85%	50%	30%	43%	50%	48%	50%	50%	50%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%
Modal Split	(3)			(10)			(2)		
	AM	**MD**	**PM**	**AM**	**MD**	**PM**	**AM**	**MD**	**PM**
Auto	15.0%	15.0%	15.0%	29.0%	29.0%	29.0%	3.0%	3.0%	3.0%
Taxi	1.0%	1.0%	1.0%	5.0%	5.0%	5.0%	2.0%	2.0%	2.0%
Subway	44.0%	44.0%	44.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Bus	30.0%	30.0%	30.0%	25.0%	25.0%	25.0%	10.0%	10.0%	10.0%
School Bus	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Walk	10.0%	10.0%	10.0%	36.0%	36.0%	36.0%	80.0%	80.0%	80.0%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%
Vehicle Occupancy	(2)(3) Weekday			(4) AM	MD	PM	(2) Weekday		
Auto	1.10			1.12	1.32	1.34	1.60		
Taxi	1.40			1.40	1.40	1.40	1.20		
School Bus	N/A			N/A			N/A		
Daily Delivery Trip Generation Rate	(1) Weekday 0.06 Delivery Trips / DU			(4) Weekday 0.35 Delivery Trips / KSF			(1) Weekday 0.35 Delivery Trips / KSF		
	AM	**MD**	**PM**	**AM**	**MD**	**PM**	**AM**	**MD**	**PM**
Delivery Temporal	(1)			(4)			(1)		
	12%	9%	2%	8%	11%	2%	8%	11%	2%
Delivery Direction	(1)			(4)			(1)		
In	50%	50%	50%	50%	50%	50%	50%	50%	50%
Out	50%	50%	50%	50%	50%	50%	50%	50%	50%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

Table 12-5 (cont'd)
Travel Demand Assumptions

Use	School - Staff			School - Students			School - Parents		
Total Daily Person Trip	(1) Weekday 2.0 Trips / Person			(1) Weekday 2.0 Trips / Person			(1)(8) Weekday 4.0 Trips / Person		
Trip Linkage	0%			0%			0%		
Net Daily Person trip	Weekday 2.0 Trips / Person			Weekday 2.0 Trips / Person			Weekday 4.0 Trips / Person		
	AM	**MD**	**PM**	**AM**	**MD**	**PM**	**AM**	**MD**	**PM**
Temporal	(1)			(1)			(1)(8)		
	40%	0%	40%	49.5%	0.0%	49.5%	49.5%	0.0%	49.5%
Direction	(5)			(5)			(5)		
In	100%	50%	0%	100%	50%	0%	50%	50%	50%
Out	0%	50%	100%	0%	50%	100%	50%	50%	50%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%
Modal Split	(6)			(5)			(5)(8)		
	AM	**MD**	**PM**	**AM**	**MD**	**PM**	**AM**	**MD**	**PM**
Auto	48.0%	48.0%	48.0%	11.0%	11.0%	11.0%	0.0%	0.0%	0.0%
Taxi	4.0%	4.0%	4.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Subway	22.0%	22.0%	22.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Bus	18.0%	18.0%	18.0%	1.0%	1.0%	1.0%	1.5%	1.5%	1.5%
School Bus	0.0%	0.0%	0.0%	15.0%	15.0%	15.0%	0.0%	0.0%	0.0%
Walk	8.0%	8.0%	8.0%	73.0%	73.0%	73.0%	98.5%	98.5%	98.5%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%
Vehicle Occupancy	(6) Weekday			(5)(9) Weekday					
Auto	1.12			1.28					
Taxi	1.12			1.43					
School Bus	N/A			17.0					
Daily Delivery Trip Generation Rate				(7) Weekday 0.03 Delivery Trips / Student					
				AM	**MD**	**PM**			
Delivery Temporal				(7)					
				9.6%	11.0%	1.0%			
Delivery Direction				(7)					
In				50%	50%	50%			
Out				50%	50%	50%			
Total				100%	100%	100%			

Sources:

(1) 2014 *CEQR Technical Manual.*
(2) *Crotona Park East/West Farms Rezoning and Related Actions FEIS* (2011).
(3) U.S. Census Bureau, ACS 2008-2012 Five-Year Estimates - Journey-to-Work (JTW) Data for Census Tracts 60, 359, and 361.
(4) *Astoria Cove Development FEIS* (2014).
(5) *SCA – Webster Avenue PS/IS EAF* (2009).
(6) U.S. Census Bureau, ACS 2006-2010 Five-Year Estimates. Special Tabulation: Census Transportation Planning – Reverse-Journey-to-Work (RJTW) Data. Excludes work-at-home mode.
(7) *No. 7 Subway Extension-Hudson Yards Rezoning and Development Program FGEIS* (2004).
(8) Assumes 1 parent for every 1.28 students taking subway, bus, and walk modes to school and the same temporal distribution as students.
(9) Based on NYCDOT survey.
(10) Based on *Washington Plaza EAS* (2002) and modified per NYCDOT.

PUBLIC SCHOOL

Staff

The daily person trip rate and temporal distribution for staff are from the 2014 *CEQR Technical Manual*. The directional distribution is from the 2009 *SCA – Webster Avenue PS/IS EAF*. The modal splits and vehicle occupancies are from Reverse-Journey-to-Work (RJTW) data for the 2006-2010 U.S. Census Bureau ACS for Bronx census tracts 60, 220, 359, 361, and 363.

Students

The daily person trip rate and temporal distribution for students are from the 2014 *CEQR Technical Manual*. The directional distribution, modal splits, and taxi occupancy are from the 2009 *SCA – Webster Avenue PS/IS EAF*. The auto occupancy is based on NYCDOT survey. Auto trips are assumed to be pick-ups and drop-offs made by parents. The school delivery travel demand factors are from the 2004 *No. 7 Subway Extension-Hudson Yards Rezoning and Development Program FGEIS.*

Parents

The daily person trip rate and temporal distribution for parents are from the 2014 *CEQR Technical Manual*. In line with typical SCA elementary school assumptions, it is anticipated that one parent would accompany every 1.28 students taking subway, bus, and walk modes to school. The directional distribution is from the 2009 *SCA – Webster Avenue PS/IS EAF*.

TRAVEL DEMAND PROJECTION SUMMARY

As summarized in **Table 12-6**, the proposed project would generate 1,977, 814, and 2,249 incremental person trips during the weekday AM, midday, and PM peak hours, respectively. Approximately 259, 100, and 284 incremental vehicle trips would be generated during the same respective peak hours.

Table 12-6
Trip Generation Summary: Proposed Project Incremental Trips

Peak Hour	In/Out	Person Trip							Vehicle Trip				
		Auto	Taxi	Subway	Bus	School Bus	Walk	Total	Auto	Taxi	School Bus	Delivery	Total
AM	In	101	6	62	62	74	692	997	84	11	4	4	103
	Out	105	8	284	205	0	378	980	137	11	4	4	156
	Total	206	14	346	267	74	1,070	1,977	221	22	8	8	259
Midday	In	44	8	94	84	0	177	407	36	10	0	4	50
	Out	44	8	94	84	0	177	407	36	10	0	4	50
	Total	88	16	188	168	0	354	814	72	20	0	8	100
PM	In	108	11	264	204	0	439	1,026	136	15	4	1	156
	Out	130	9	127	115	74	768	1,223	108	15	4	1	128
	Total	238	20	391	319	74	1,207	2,249	244	30	8	2	284

Traffic

As shown in **Table 12-6**, the incremental trips generated by the proposed project would be 259, 100, and 284 vehicle trips during the weekday AM, midday, and PM peak hours, respectively. Since the incremental vehicle trips would be greater than 50 vehicles, a Level 2 screening assessment (presented in the section below) was conducted to determine if a quantified traffic analysis is warranted.

Transit

Public transit options to and from the study area are shown on **Figure 12-2**. As detailed in **Table 12-6**, the incremental transit trips generated by the proposed project would be 346, 188, and 391 person trips by subway, 267, 168, and 319 person trips by bus during the weekday AM, midday, and PM peak hours, respectively. Since the incremental subway trips would be greater than 200 during the weekday AM and PM peak hours, a Level 2 screening assessment (presented in the section below) was conducted to determine if a quantified subway analysis is warranted. Since the incremental bus trips would be greater than 50 during all peak hours, a Level 2 screening assessment was conducted to determine if a quantified bus line-haul analysis is warranted.

Pedestrian

All incremental person trips generated by the proposed project would traverse the pedestrian elements surrounding Parcels 1, 3, 5, and 10. As shown in **Table 12-6**, the incremental pedestrian trips would be greater than 200 during all peak hours. A Level 2 screening assessment (presented in the section below) was conducted to determine if a quantified pedestrian analysis is warranted.

LEVEL 2 SCREENING ASSESSMENT

A Level 2 screening assessment involves the distribution and assignment of projected trips to the transportation network and the determination of whether specific locations are expected to experience incremental trips exceeding *CEQR Technical Manual* thresholds. If the results of this analysis show that the proposed project would result in 50 or more peak hour vehicle trips through an intersection, 50 or more peak hour bus riders on a bus route in a single direction, 200 or more peak hour subway passengers per station, or 200 or more peak hour pedestrian trips per pedestrian element, further quantified analyses may be warranted to evaluate the potential for significant adverse traffic, transit, pedestrian, and parking impacts.

SITE ACCESS AND EGRESS

For the proposed project, residential and retail entrances would be distributed throughout street frontages at all four parcels. Residential building entrances would also be located in the interior courtyards on Parcels 1, 3, and 5. The supermarket on Parcel 10 is anticipated to maintain its main entrance along Boston Road. The new school would be located on Parcel 10 with its main entrance on East Tremont Avenue.

CHANGES TO TRAFFIC CIRCULATION

The proposed project would create new private streets, including segments on Bryant Avenue between East 181st Street and East 180th Street, Bryant Avenue between East 180th Street and East 179th Street, and East 181st Street between Boston Road and Bryant Avenue. The new street segments are anticipated to maintain the same direction of travel as their existing adjacent street segments. Specifically:

- The Bryant Avenue segment between East 181st Street and East 180th Street would operate one-way southbound. It is anticipated that at its intersection with East 180th Street, the Bryant Avenue approach would be stop-controlled and traffic would only be permitted to make a right-turn onto East 180th Street.

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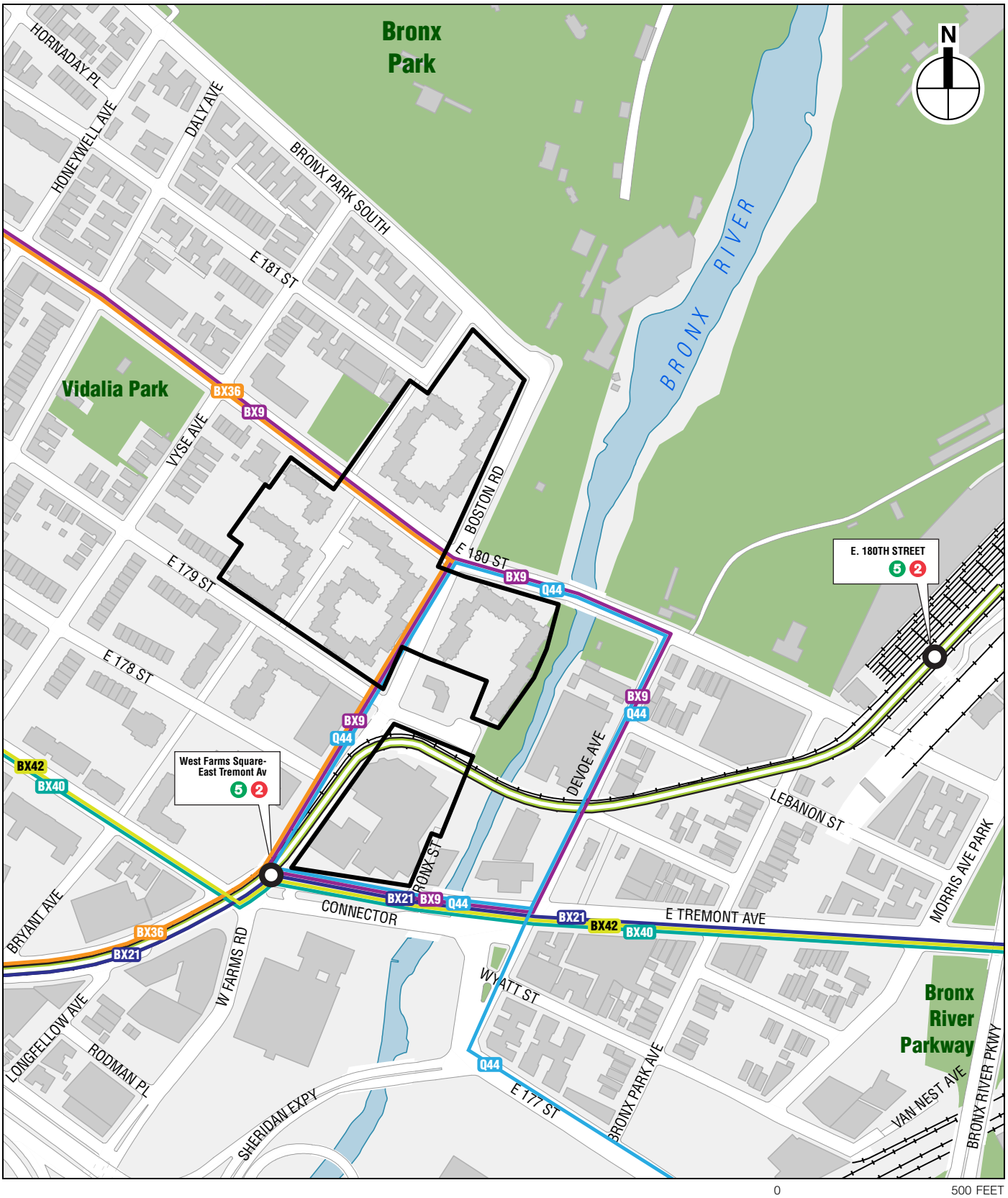


Development Site

Subway Line

BX36 *Bus Route*

PHIPPS LAMBERT HOUSES

Transit Map
Figure 12-2

- The Bryant Avenue segment between East 180th Street and East 179th Street would also operate one-way southbound. It is anticipated that at its intersection with East 179th Street, the Bryant Avenue approach would be stop-controlled and traffic would only be permitted to make a right-turn onto East 179th Street.
- The East 181st Street segment between Boston Road and Bryant Avenue would operate one-way westbound. It is anticipated that at its intersection with Bryant Avenue, the East 181st Street approach would be stop-controlled and traffic would be permitted to make a left-turn onto the new Bryant Avenue segment or a through movement continuing on East 181st Street.

Approximately 60 on-street parking spaces would be created on these new private streets and would be made available to Lambert Houses residents only.

TRAFFIC

As shown in **Table 12-6**, incremental vehicle trips resulting from the proposed project would exceed the *CEQR* Level-1 screening threshold during all peak hours. These vehicle trips were assigned to area intersections based on the most likely travel routes to and from the development parcels, prevailing travel patterns, commuter origin-destination (O-D) summaries from the census data, the configuration of the roadway network, and the anticipated locations of site access and egress. Auto trips were assigned to the newly created on-street parking spaces and to the parking spaces on Parcel 10. Taxi trips were assigned to the various block faces of the development parcels along Boston Road, Bryant Avenue, East Tremont Avenue, East 179th Street, East 180th Street, and East 181st Street. All delivery trips were assigned to the development parcels via the NYCDOT designated truck routes. As described above, the proposed project would create new street segments on Bryant Avenue and East 181st Street. These street network changes have been accounted for in the traffic assignments. Traffic assignments for autos, taxis, and deliveries for the various development uses are discussed below.

Residential

Auto trips generated by the residential uses were assigned to the surrounding roadway network based on the 2006-2010 U.S. Census ACS JTW origin-destination estimates. Many of the residential trips would travel to work destinations within the local region of the Bronx (60 percent) with the remaining trips traveling to Manhattan (14 percent), to New Jersey (8 percent), to Brooklyn (7 percent), to Queens (3 percent), to Long Island (3 percent), and to counties in Upstate New York (5 percent). Residential trips would originate from either the on-site parking spaces at Parcel 10 or on-street parking along the new segments of East 181st Street between Bryant Avenue and Boston Road, and Bryant Avenue from East 181st Street to East 179th Street created by the proposed project. Subsequently, vehicles would use the most direct routes via local streets to travel to reach their destinations. The majority of trips traveling south were assigned to the Sheridan Expressway, with the remaining trips utilizing the Bronx River Parkway and Southern Boulevard/Boston Road. Vehicles heading west are expected to use the Cross Bronx Expressway westbound and local trips are expected to use either East Tremont Avenue or East 180th Street. Eastbound trips were assigned to the Cross Bronx Expressway eastbound and East Tremont Avenue. Vehicles traveling northbound were assigned to the Bronx River Parkway, Route 1 via Morris Park Avenue, and Southern Boulevard. Overall, the vehicle trips generated by the residential uses were distributed to the study area roadway network in the

following manner: approximately 55 percent assigned to points south of the development area, 22 percent to points east, 12 percent to points north, and 11 percent to points west.

Supermarket

The supermarket is expected to serve patrons from the immediate area. Therefore, auto trips were generally assigned from local origins within the neighborhood and adjacent residential areas. Overall, the vehicle trips generated by the supermarket were distributed to the study area roadway network in the following manner: approximately 25 percent assigned to points north of the development, 25 percent to points east, 26 percent to points south, and 24 percent to points west. Trips were assigned to various major roadways leading to the Parcel 10 parking spaces, including East Tremont Avenue, East 180th Street, Southern Boulevard, Boston Road, East 177th Street, and Morris Park Avenue.

Local Retail

The local retail uses are expected to also serve patrons from the immediate area, following the same general distribution described above for the supermarket. Retail patrons would primarily seek on-street parking in the area. However, for the purposes of a conservative trip assignment, vehicles were directed to terminate at the Parcel 10 parking spaces. Trips would travel to the various on-street parking options via the major roadways surrounding the development area, including East Tremont Avenue, East 180th Street, Southern Boulevard, Boston Road, East 177th Street and Morris Park Avenue.

Public School

Staff

Auto trips generated by the staff were assigned to the surrounding roadway network based on the 2006-2010 U.S. Census ACS RJTW origin-destination estimates. The majority of the staff trips would originate from within the local region of the Bronx (70 percent) with the remaining trips originating from New Jersey (9 percent), counties in Upstate New York (9 percent), Queens (4 percent), Brooklyn (3 percent), Long Island (2 percent), Connecticut (2 percent), and Manhattan (1 percent). Staff trips were assigned to the on-site Parcel 10 parking spaces using the most direct route along major roadways from their points of origin.

Students

Auto trips generated by the students were based on residential trip patterns, assuming trips would originate primarily from the proposed project's residential uses and would drop off and pick up students traveling to and from work. School bus trips were assigned based on school bus routes of similar K to 5 schools in the surrounding area including P.S. 214, a Pre-K to 8 school located adjacent to the development area.

Taxis

Taxi pick-ups and drop-offs for all project components were assigned to the various block faces of the development parcels along Boston Road, Bryant Avenue, East Tremont Avenue, East 179th Street, East 180th Street, and East 181st Street.

Deliveries

Truck delivery trips for all land uses were assigned to NYCDOT-designated truck routes as long as possible until reaching the area surrounding the development area. These trips were then distributed primarily along Boston Road and East Tremont Avenue.

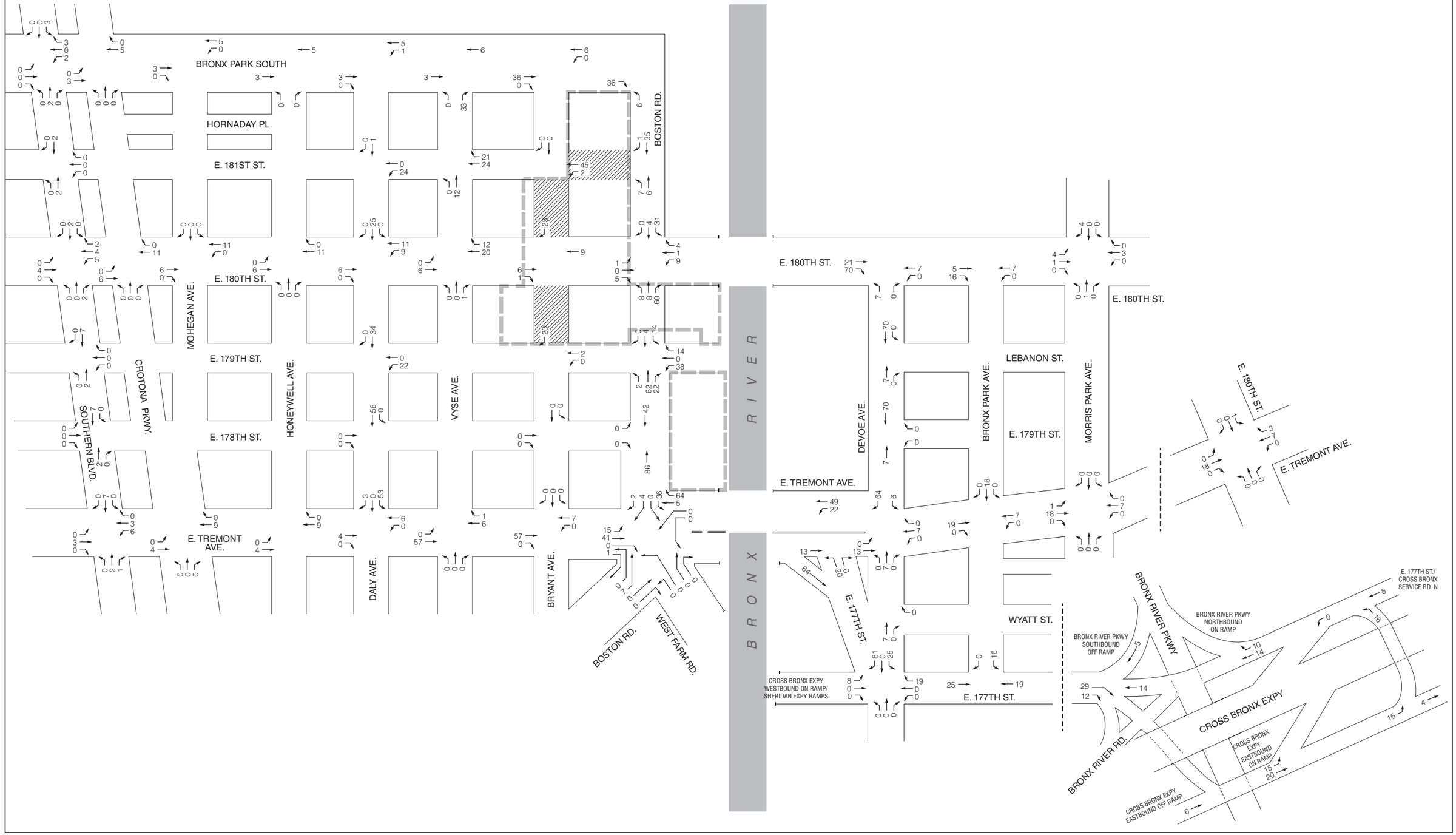
Summary

As shown in **Figures 12-3 through 12-5** and summarized in **Table 12-7**, 16 intersections, comprising the traffic study area, have been selected for analysis in consultation with NYCDOT. The selected traffic analysis locations are shown in **Figure 12-6**.

TRANSIT

The proposed project is located near two New York City Transit (NYCT) subway stations: (1) West Farms Square/East Tremont Avenue Station (Nos. 2 and 5 trains); and (2) East 180th Street Station (Nos. 2 and 5 trains). As summarized in **Table 12-6**, the proposed project is expected to generate 346, 188, and 391 peak hour incremental subway trips during the weekday AM, midday, and PM peak hours, respectively. Based on the trip distribution results, quantified analyses of affected subway elements at the West Farms Square/East Tremont Avenue subway station for the weekday AM and PM peak hours would be warranted. For subway line-haul conditions, the projected incremental ridership would be distributed to two subway lines, the Nos. 2 and 5 trains. Since the majority of project generated subway trips are expected to use the No. 2 line, this subway line was selected for line-haul analysis for the weekday AM and PM peak hours.

There are numerous bus routes with stops adjacent to or near the development parcels, including the Bx9, Bx21, Bx36, Bx40, Bx42, and Q44 local bus routes, and express bus routes to Manhattan. As summarized in **Table 12-6**, the proposed project is expected to generate 267, 168, and 319 incremental bus trips during the weekday AM, midday, and PM peak hours, respectively. Based on a distribution of the projected bus trips, including transfers, it was determined that none of the bus routes serving the study area would incur 50 or more peak hour riders in a single direction. Therefore, a quantified bus line-haul analysis is not warranted and the proposed project would not result in any significant adverse bus line-haul impacts.

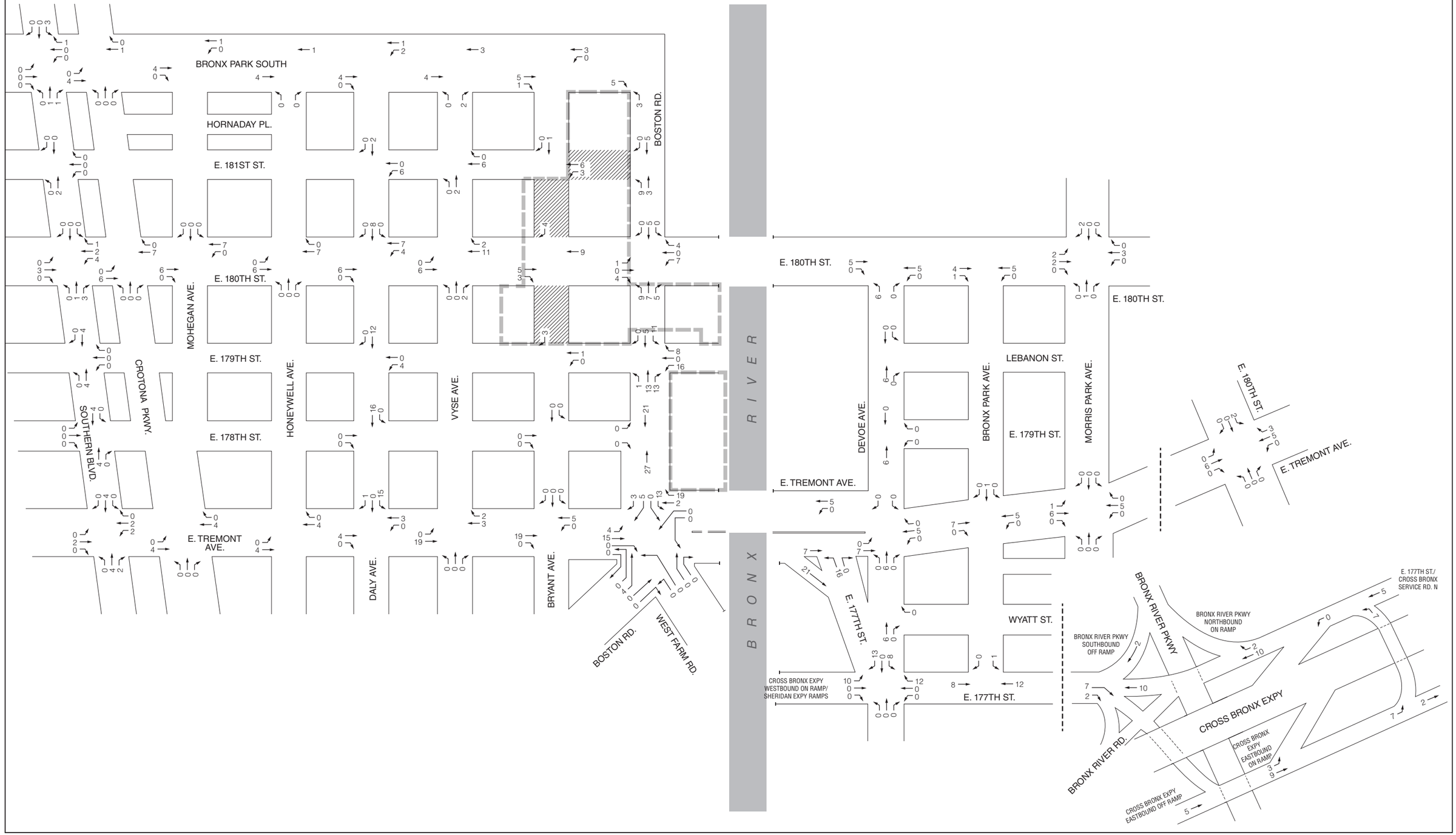


Development Site

Roadway created by Proposed Project

PHIPPS LAMBERT HOUSES

Proposed Project Incremental Vehicle Trips
Weekday AM Peak Hour
Figure 12-3

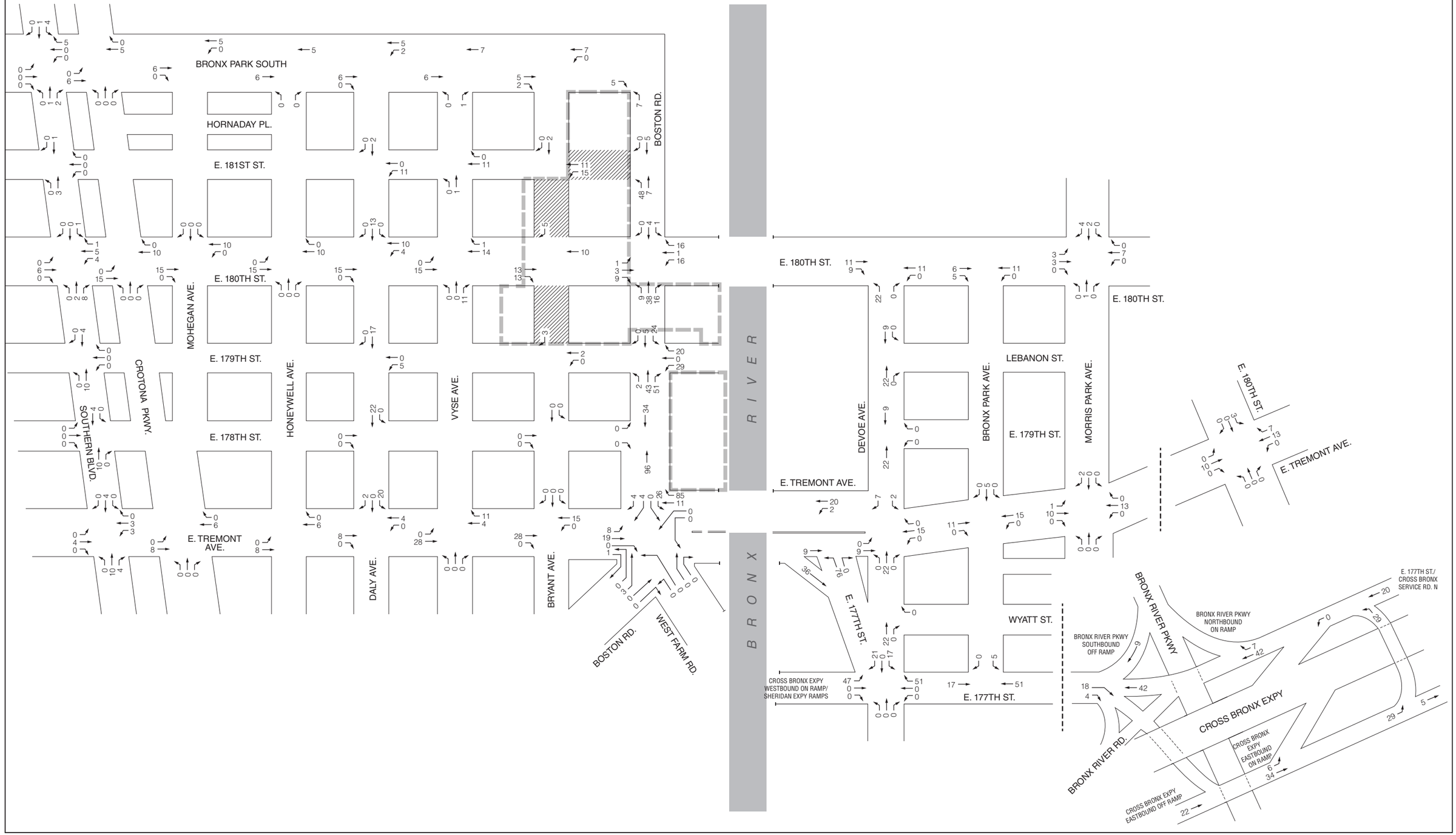


Development Site

Roadway created by Proposed Project

PHIPPS LAMBERT HOUSES

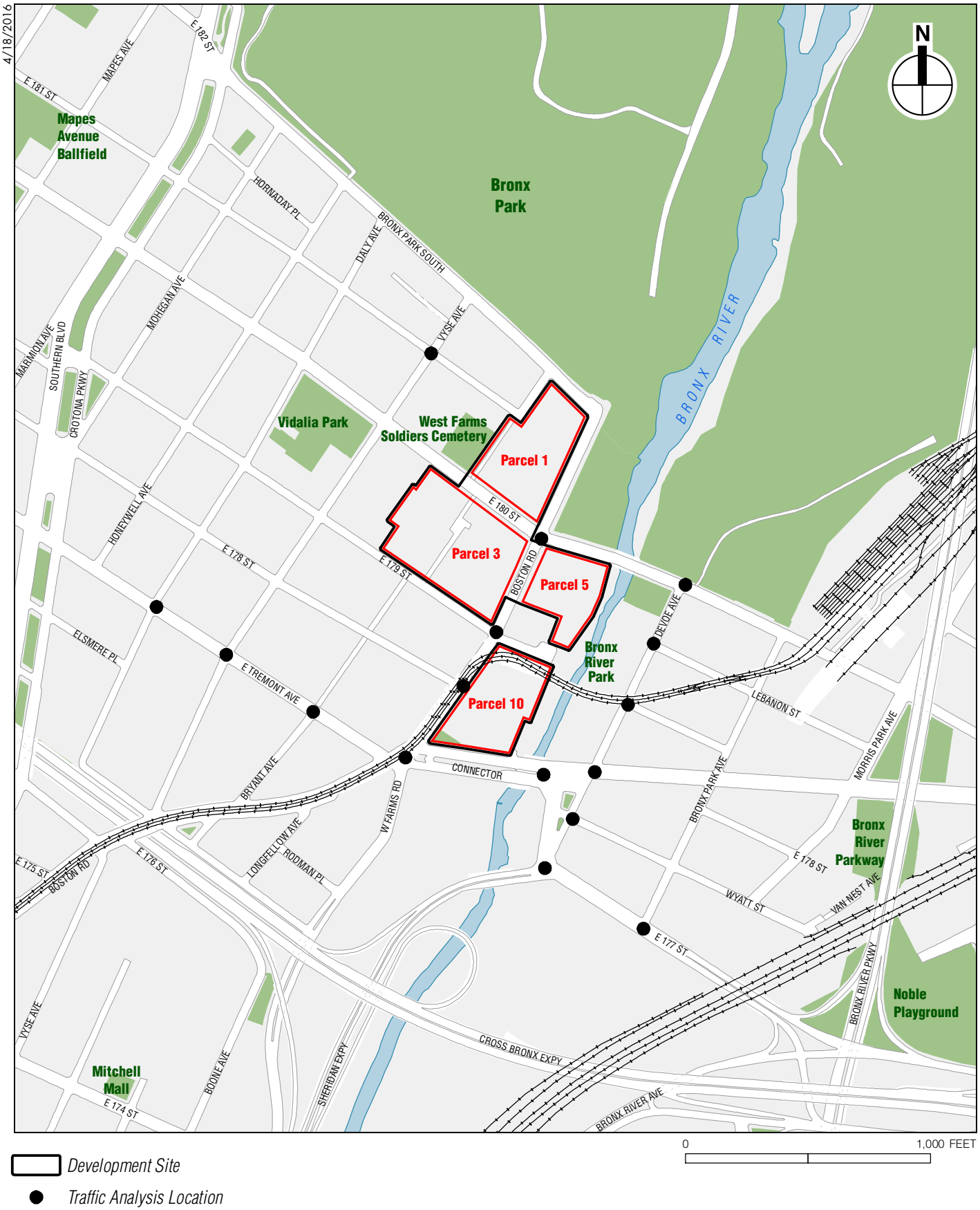
Proposed Project Incremental Vehicle Trips
Weekday Midday Peak Hour
Figure 12-4



Development Site

Roadway created by Proposed Project

Proposed Project Incremental Vehicle Trips
Weekday PM Peak Hour
Figure 12-5



PHIPPS LAMBERT HOUSES

Traffic Analysis Locations
Figure 12-6

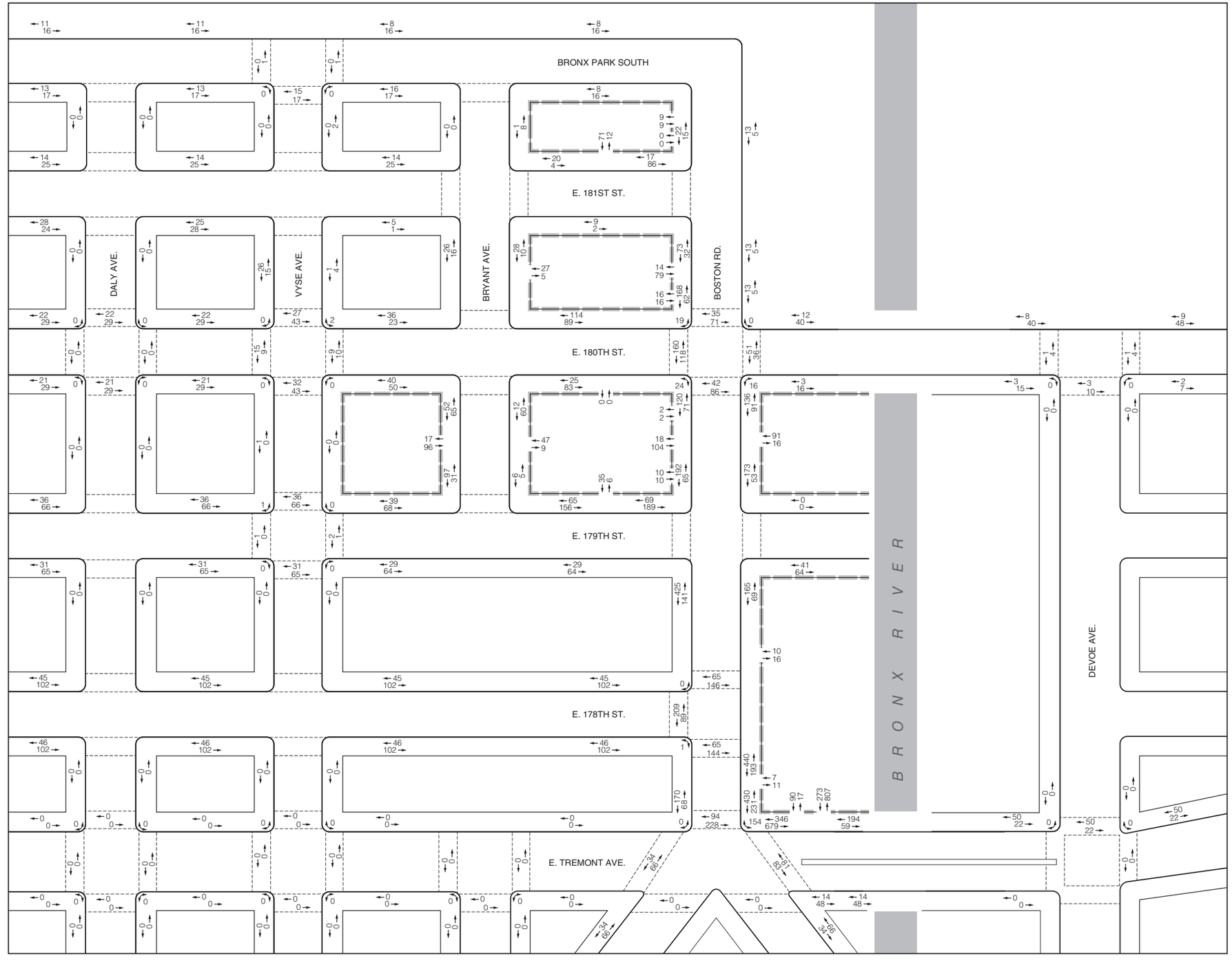
Table 12-7
Traffic Level 2 Screening Analysis Results—Selected Analysis Locations

Intersection	Incremental Vehicle Trips (Weekday)			Selected Analysis Locations
	AM	Midday	PM	Weekday
Bronx Park South and Daly Avenue	9	7	13	
East 181st Street and Daly Avenue	25	8	13	
East 180th Street and Daly Avenue	**51**	25	42	
East 179th Street and Daly Avenue	**56**	16	22	
East Tremont Avenue and Daly Avenue	**66**	23	34	✓
Bronx Park South and Vyse Avenue	42	9	14	
East 181st Street and Vyse Avenue	**57**	8	12	✓
East 180th Street and Vyse Avenue	39	21	41	
East Tremont Avenue and Vyse Avenue	**64**	24	43	✓
Bronx Park South and Bryant Avenue	42	9	14	
East 181st Street and Bryant Avenue	47	10	28	
East 180th Street and Bryant Avenue	39	21	28	
East 179th Street and Bryant Avenue	22	4	5	
East Tremont Avenue and Bryant Avenue	**64**	24	43	✓
Bronx Park South and Boston Road	42	8	12	
East 181st Street and Boston Road [(1)]	49	17	**60**	
East 180th Street and Boston Road	**131**	42	**114**	✓
East 179th Street and Boston Road	**156**	**67**	**174**	✓
East 178th Street and Boston Road	**128**	48	**130**	✓
East Tremont Avenue and Boston Road / West Farms Road	**175**	**65**	**161**	✓
East 177th Street and Sheridan Expressway Ramps	**113**	43	**136**	✓
Wyatt Street and Devoe Avenue	7	6	22	✓
East Tremont Avenue and East 177th Street	**168**	49	**143**	✓
East Tremont Avenue and Devoe Avenue	**97**	18	**55**	✓
East 179th Street and Devoe Avenue	**77**	6	31	✓
Lebanon Street and Devoe Avenue	**77**	6	31	✓
East 180th Street and Devoe Avenue	**105**	16	**53**	✓
East 180th Street and Bronx Park Avenue	28	10	22	
East Tremont Avenue and Bronx Park Avenue	42	13	31	
East 177th Street and Bronx Park Avenue	**60**	21	**73**	✓

Notes: ✓ denotes intersections selected for the detailed traffic analysis.
(1) New intersection created by the proposed project. The new East 181th Street segment at this intersection would operate in the westbound direction as a receiving leg, carrying traffic away from its intersection with Boston Road.

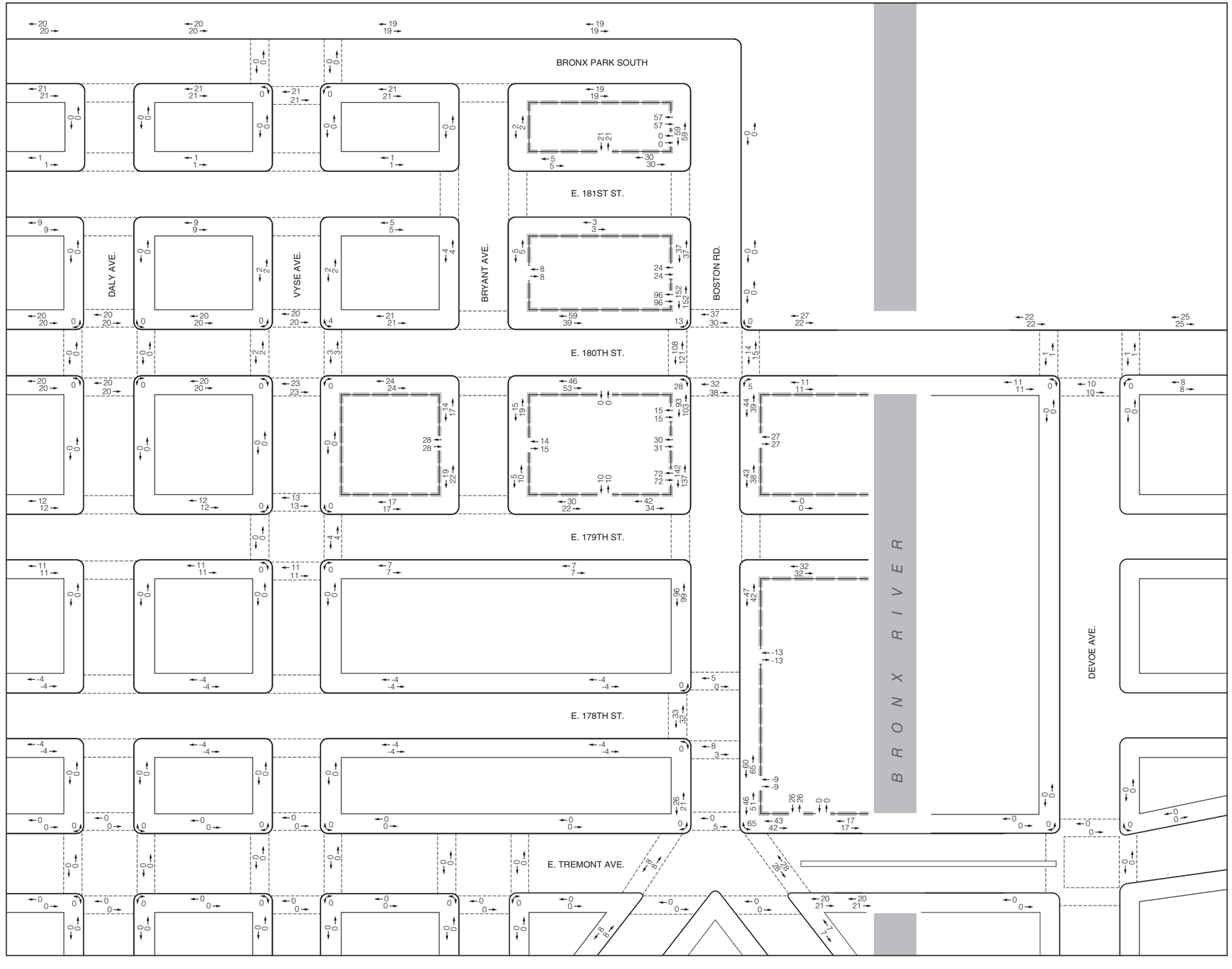
PEDESTRIANS

As shown in **Table 12-6**, the projected peak hour incremental pedestrian trips would exceed the CEQR analysis threshold of 200 pedestrians during all peak hours. Level 2 pedestrian trip assignments were individually developed for all the proposed uses, as shown in **Figures 12-7 through 12-9** and discussed below. Based on the detailed assignment of pedestrian trips and in consultation with NYCDOT, 15 sidewalks, 8 corner reservoirs, and 6 crosswalks were selected for detailed analysis of weekday peak hour conditions, as summarized in **Table 12-8** and depicted in **Figure 12-10**.



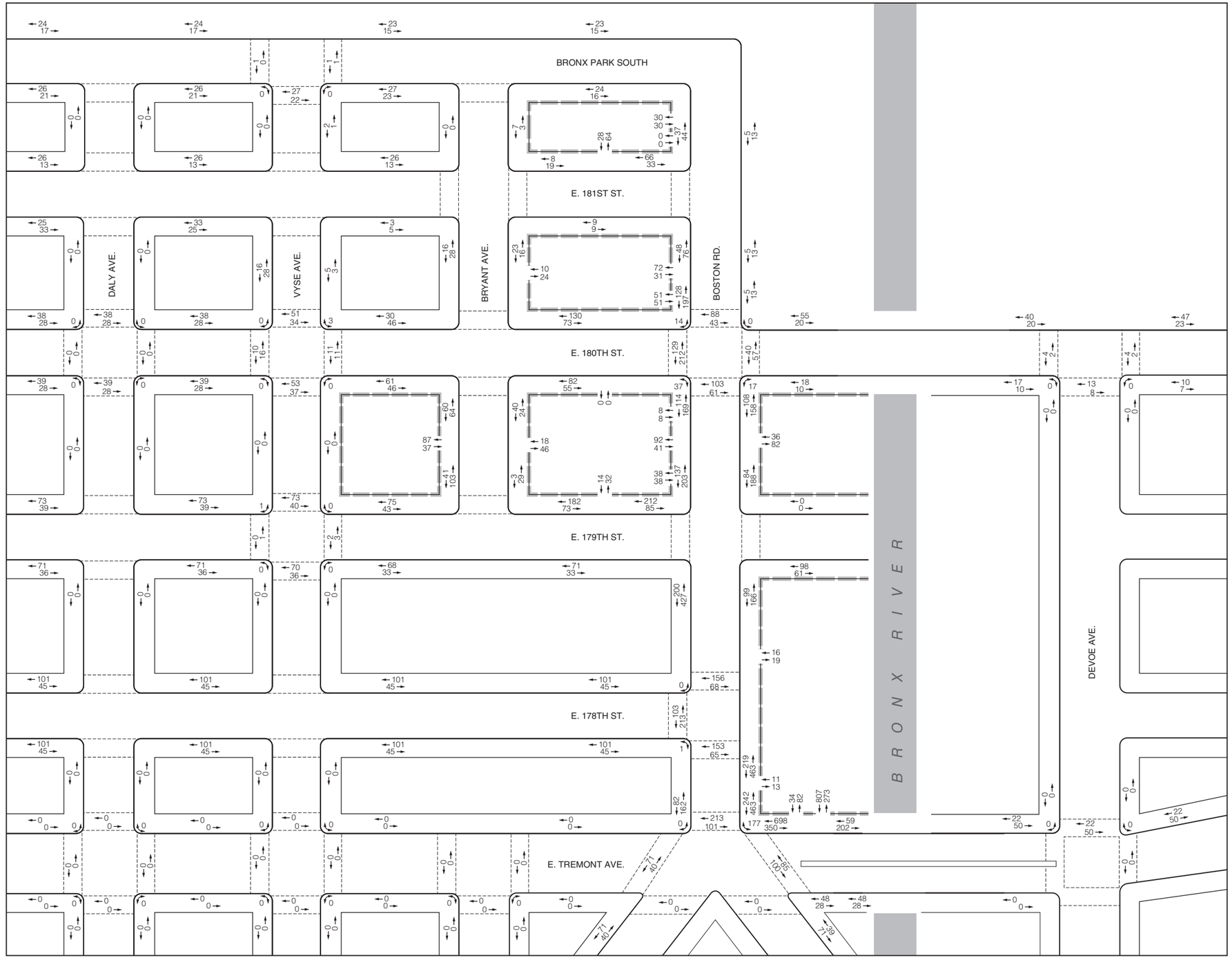
Development Site

Proposed Project Incremental Pedestrian Trips
Weekday AM Peak Hour
Figure 12-7



Development Site

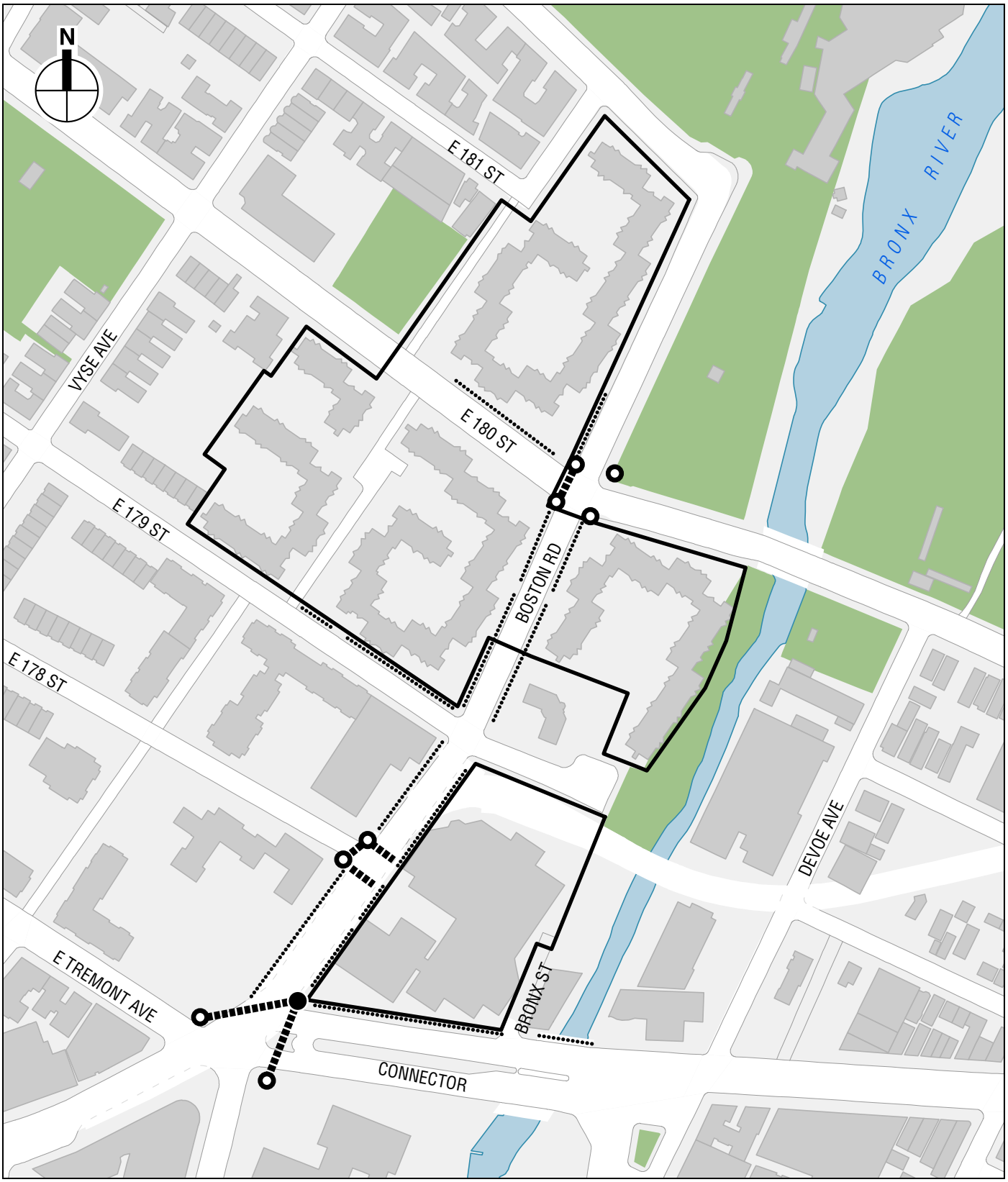
Proposed Project Incremental Pedestrian Trips
Weekday Midday Peak Hour
Figure 12-8



Development Site

Proposed Project Incremental Pedestrian Trips
Weekday PM Peak Hour
Figure 12-9

4.18.16



Development Site

Corner

Sidewalk

Crosswalk

200+ incremental pedestrian trips in at least one peak hour. Not included in study area due to existing pedestrian plaza.

PHIPPS LAMBERT HOUSES

Pedestrian Study Area

Figure 12-10

Table 12-8
Pedestrian Level 2 Screening Analysis Results—Selected Analysis Locations

Pedestrian Elements	Weekday AM	Weekday Midday	Weekday PM	Selected Analysis Location Weekday
East 180th Street and Boston Road				
West Crosswalk	**278**	**229**	**341**	✓
Northeast Corner	193	96	**228**	✓
Southeast Corner	**231**	104	**278**	✓
Southwest Corner	**430**	**327**	**542**	✓
Northwest Corner	**403**	**309**	**486**	✓
Southeast Sidewalk between East 180th and East 179th Streets (on Boston Road)	**227**	83	**266**	✓
Southwest Sidewalk between East 180th and East 179th Streets (on Boston Road)	191	196	**283**	✓
Northwest Sidewalk between East 181st and East 180th Streets (on Boston Road)	**230**	**304**	**325**	✓
East 180th Street and Bryant Avenue				
Northeast Sidewalk between Bryant Avenue and Boston Road (on East 180th Street)	**203**	98	**203**	✓
East 179th Street and Bryant Avenue				
Northeast Sidewalk between Bryant Avenue and Boston Road (on East 179th Street)	**221**	52	**255**	✓
East 179th Street and Boston Road				
Northeast Sidewalk between East 180th and East 179th Streets (on Boston Road)	**226**	81	**272**	✓
Northwest Sidewalk between East 180th and East 179th Streets (on Boston Road)	**257**	**279**	**340**	✓
East Sidewalk between East 179th and East 178th Streets (on Boston Road)	**234**	89	**265**	✓
West Sidewalk between East 179th and East 178th Streets (on Boston Road)	**566**	195	**627**	✓
Northwest Sidewalk between Bryant Avenue and Boston Road (on East 179th Street)	**258**	76	**297**	✓
East 178th Street and Boston Road				
North Crosswalk	**211**	5	**224**	✓
South Crosswalk	**209**	11	**218**	✓
West Crosswalk	**298**	65	**316**	✓
Northwest Corner	**509**	70	**540**	✓
Southwest Corner	**508**	76	**535**	✓
Southeast Sidewalk between East 178th Street and East Tremont Avenue (on Boston Road)	**633**	125	**682**	✓
Southwest Sidewalk between East 178th Street and East Tremont Avenue (on Boston Road)	**238**	47	**244**	✓
East Tremont Avenue and Boston Road / West Farms Road				
North Crosswalk	**322**	5	**314**	✓
East Crosswalk*	164	56	185	✓
Northeast Corner **	**640**	126	**676**	
Southeast Corner	164	56	185	✓
Northwest Corner	**422**	21	**425**	✓
Northeast Sidewalk between East 178th Street and East Tremont Avenue (on Boston Road)	**661**	97	**705**	✓
Northeast Sidewalk between Boston Road and Devoe Avenue (on East Tremont Avenue)	**1,025**	85	**1,048**	✓
North Sidewalk between Boston Road and Devoe Avenue (on East Tremont Avenue, east of school entrance)	**253**	34	**261**	✓

Notes: ✓ denotes pedestrian elements selected for the detailed analysis.
* This crosswalk is being analyzed as one segment under existing conditions, and as two segments under the No Action and With Action conditions to reflect planned design changes at the East Tremont Avenue and Boston Road/West Farms Road intersection.
** Not analyzed due to existing pedestrian plaza.

- Auto Trips – Motorists would primarily seek on-street parking in the area. As noted in the above sections, new on-street parking spaces would be created on the new private street segments on Bryant Avenue and East 181st Street. For the purposes of a conservative vehicle trip assignment, vehicles were directed to terminate along the new private street segments, and at the Parcel 10 parking spaces. Therefore, motorists would walk to and from these on-street and Parcel 10 parking spaces.
- Taxi Trips – Taxi patrons would get dropped off and picked up along East 179th Street, East 180th Street, East 181st Street, Bronx Park South, Bryant Avenue, Boston Road, and East Tremont Avenue.
- School Bus Trips – Students would get dropped off and picked up along East Tremont Avenue in front of the school's main entrance.

- City Bus Trips – City bus riders would take buses stopping on East Tremont Avenue, Boston Road, and East180th Street.
- Subway Trips – Subway riders were assigned to the West Farms Square/East Tremont Avenue and East 180th Street stations (Nos. 2 and 5 trains).
- Walk-Only Trips – Pedestrian walk-only trips were developed by distributing project-generated person trips to area pedestrian facilities (i.e., sidewalks, corner reservoirs, and crosswalks) based on population data as well as the land use characteristics of the surrounding neighborhood.

C. TRANSPORTATION ANALYSIS METHODOLOGIES

TRAFFIC OPERATIONS

The operation of all of the signalized intersections and unsignalized intersection in the study area were assessed using methodologies presented in the *2000 Highway Capacity Manual (HCM)* using the *Highway Capacity Software (HCS+ 5.5)*. The *HCM* procedure evaluates the levels of service (LOS) for signalized and unsignalized intersections using average stop control delay, in seconds per vehicle, as described below.

SIGNALIZED INTERSECTIONS

The average control delay per vehicle is the basis for LOS determination for individual lane groups (grouping of movements in one or more travel lanes), the approaches, and the overall intersection. The levels of service are defined in **Table 12-9**.

Table 12-9
Level of Service Criteria for Signalized Intersections

LOS	Average Control Delay
A	≤ 10.0 seconds
B	>10.0 and ≤ 20.0 seconds
C	>20.0 and ≤ 35.0 seconds
D	>35.0 and ≤ 55.0 seconds
E	>55.0 and ≤ 80.0 seconds
F	>80.0 seconds
Source:	Transportation Research Board. *Highway Capacity Manual*, 2000.

Although the HCM methodology calculates a volume-to-capacity (v/c) ratio, there is no strict relationship between v/c ratios and LOS as defined in the *HCM*. A high v/c ratio indicates substantial traffic passing through an intersection, but a high v/c ratio combined with low average delay actually represents the most efficient condition in terms of traffic engineering standards, where an approach or the whole intersection processes traffic close to its theoretical maximum capacity with minimal delay. However, very high v/c ratios—especially those approaching or greater than 1.0—are often correlated with a deteriorated LOS. Other important variables affecting delay include cycle length, progression, and green time. LOS A and B indicate good operating conditions with minimal delay. At LOS C, the number of vehicles stopping is higher, but congestion is still fairly light. LOS D describes a condition where congestion levels are more noticeable and individual cycle failures (a condition where motorists may have to wait for more than one green phase to clear the intersection) can occur. Conditions at LOS E and F reflect poor service levels, and cycle failures are frequent. The *HCM*

methodology also provides for a summary of the total intersection operating conditions. The analysis chooses the two critical movements (the worst case from each roadway) and calculates a summary critical v/c ratio. The overall intersection delay, which determines the intersection's LOS, is based on a weighted average of control delays of the individual lane groups. Within New York City, the midpoint of LOS D (45 seconds of delay) is generally considered as the threshold between acceptable and unacceptable operations.

Significant Impact Criteria

According to the criteria presented in the *CEQR Technical Manual*, impacts are considered significant and require examination of mitigation if they result in an increase in the With Action condition of 5 or more seconds of delay in a lane group over No Action levels beyond mid-LOS D. For No Action LOS E, a 4-second increase in delay is considered significant. For No Action LOS F, a 3-second increase in delay is considered significant. In addition, impacts are considered significant if levels of service deteriorate from acceptable A, B, or C in the No Action condition to marginally unacceptable LOS D (a delay in excess of 45 seconds, the midpoint of LOS D), or unacceptable LOS E or F in the With Action condition.

UNSIGNALIZED INTERSECTIONS

For unsignalized intersections, the average control delay is defined as the total elapsed time from which a vehicle stops at the end of the queue until the vehicle departs from the stop line. This includes the time required for the vehicle to travel from the last-in-queue to the first-in-queue position. The average control delay for any particular minor movement is a function of the service rate or capacity of the approach and the degree of saturation. The LOS criteria for unsignalized intersections are summarized in **Table 12-10**.

Table 12-10
Level of Service Criteria for Unsignalized Intersections

LOS	Average Control Delay
A	≤ 10.0 seconds
B	> 10.0 and ≤ 15.0 seconds
C	> 15.0 and ≤ 25.0 seconds
D	> 25.0 and ≤ 35.0 seconds
E	> 35.0 and ≤ 50.0 seconds
F	> 50.0 seconds

Source: Transportation Research Board. *Highway Capacity Manual*, 2000.

The LOS thresholds for unsignalized intersections are different from those for signalized intersections. The primary reason is that drivers expect different levels of performance from different types of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than an unsignalized intersection; hence, the corresponding control delays are higher at a signalized intersection than at an unsignalized intersection for the same LOS. In addition, certain driver behavioral considerations combine to make delays at signalized intersections less onerous than at unsignalized intersections. For example, drivers at signalized intersections are able to relax during the red interval, whereas drivers on minor approaches to unsignalized intersections must remain attentive to the task of identifying acceptable gaps and vehicle conflicts. Also, there is often much more variability in the amount of delay experienced by individual drivers at unsignalized intersections. For these reasons, the corresponding delay thresholds for unsignalized intersections are lower than those of signalized intersections. As with signalized intersections, within New York City,

the midpoint of LOS D (30 seconds of delay) is generally perceived as the threshold between acceptable and unacceptable operations.

Significant Impact Criteria

The same sliding scale of significant delays described for signalized intersections applies for unsignalized intersections. For the minor street to trigger significant impacts, at least 90 passenger car equivalents (PCE) must be identified in the With Action condition in any peak hour.

TRANSIT OPERATIONS

SUBWAY STATION ELEMENTS

The methodology for assessing station circulation (stairs, escalators, and passageways) and fare control (regular turnstiles, high entry/exit turnstiles, and high exit turnstiles) elements compares the user volume with the analyzed element's design capacity, resulting in a v/c ratio. For stairs, the design capacity considers the effective width of a tread, which accounts for railings or other obstructions, the friction or counter-flow between upward and downward pedestrians (up to 10 percent capacity reduction is applied to account for counter-flow friction), surging of entering and exiting pedestrians (up to 25 percent capacity reduction is applied to account for surged flows off of platforms and onto platforms), and the average area required for circulation. For passageways, similar considerations are made. For escalators and turnstiles, capacities are measured by the number and width of an element and the NYCT optimum capacity per element, which also account for the potential for surging of entering and exiting pedestrians. In the analysis for each of these elements, volumes and capacities are presented for 15-minute intervals. The estimated v/c ratio is compared with NYCT criteria to determine a LOS for the operation of an element, as summarized in **Table 12-11**.

Table 12-11
Level of Service Criteria for Subway Station Elements

LOS	V/C Ratio
A	0.00 to 0.45
B	0.45 to 0.70
C	0.70 to 1.00
D	1.00 to 1.33
E	1.33 to 1.67
F	Above 1.67

Source: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual*.

At LOS A ("free flow") and B ("fluid flow"), there is sufficient area to allow pedestrians to freely select their walking speed and bypass slower pedestrians. When cross and reverse flow movement exists, only minor conflicts may occur. At LOS C ("fluid, somewhat restricted"), movement is fluid although somewhat restricted. While there is sufficient room for standing without personal contact, circulation through queuing areas may require adjustments to walking speed. At LOS D ("crowded, walking speed restricted"), walking speed is restricted and reduced. Reverse and cross flow movement is severely restricted because of congestion and the difficult passage of slower moving pedestrians. At LOS E ("congested, some shuffling and queuing") and F ("severely congested, queued"), walking speed is restricted. There is also insufficient area to bypass others, and opposing movement is difficult. Often, forward progress is achievable only through shuffling, with queues forming.

Significant Impact Criteria

The determination of significant impacts for station elements varies based on their type and use. For stairs and passageways, significant impacts are defined in term of width increment threshold (WIT) based on the minimum amount of additional capacity that would be required either to mitigate the location to its service conditions (LOS) under the No Action levels, or to bring it to a v/c ratio of 1.00 (LOS C/D), whichever is greater. Significant impacts are typically considered to occur once the WITs in **Table 12-12** are reached or exceeded.

Table 12-12
Significant Impact Guidance for Stairs and Passageways

With Action V/C Ratio	WIT for Significant Impact (inches)	
	Stairway	Passageway
1.00 to 1.09	8.0	13.0
1.10 to 1.19	7.0	11.5
1.20 to 1.29	6.0	10.0
1.30 to 1.39	5.0	8.5
1.40 to 1.49	4.0	6.0
1.50 to 1.59	3.0	4.5
1.60 and up	2.0	3.0

Note: WIT = Width Increment Threshold.
Source: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual*.

For escalators and control area elements, impacts are significant if the proposed project causes a v/c ratio to increase from below 1.00 to 1.00 or greater. Where a facility is already at or above its capacity (a v/c of 1.00 or greater) in the No Action condition, a 0.01 increase in v/c ratio is also significant.

SUBWAY AND BUS LINE-HAUL CAPACITIES

As per the *CEQR Technical Manual*, line-haul capacities are evaluated when a proposed project is anticipated to generate a perceptible number of passengers on particular subway and bus routes. For subways, if a subway line is expected to incur 200 or more passengers in one direction of travel during the commuter peak hours, a detailed review of ridership level at its maximum load point and/or other project-specific load points would be required to determine if the route's guideline (or practical) capacity would be exceeded. NYCT operates six different types of subway cars with different seating and guideline capacities. The peak period guideline capacity of a subway car, which ranges from 110 to 175 passengers, is compared with ridership levels to determine the acceptability of conditions.

Bus line-haul capacities are evaluated when a proposed project is anticipated to generate 50 or more bus passengers to a single bus line in one direction. The assessment of bus line-haul conditions involves analyzing bus routes at their peak load points and, if necessary, also their bus stops closest to the project site to identify the potential for the analyzed routes to exceed their guideline (or practical) capacities. NYCT and the MTA Bus Company operate three types of buses: standard and articulated buses, and over-the-road coaches. During peak hours, standard buses operate with up to 54 passengers per bus, articulated buses operate with up to 85 passengers per bus, and over-the-road coaches operate with up to 55 passengers per bus.

Significant Impact Criteria

For subways, projected increases from the No Action condition within guideline capacity to a With Action condition that exceeds guideline capacity may be considered a significant adverse impact, if a subway car for a particular route is expected to incur five or more riders from a proposed project. Since there are constraints on what service improvements are available to NYCT, significant line-haul capacity impacts on subway routes are generally disclosed but would usually remain unmitigated. For buses, an increase in bus load levels greater than the maximum capacity at any load point is defined as a significant adverse impact. While subject to operational and fiscal constraints, bus impacts can typically be mitigated by increasing service frequency. Therefore, mitigation of bus line-haul capacity impacts, where appropriate, would be recommended for NYCT's approval.

PEDESTRIAN OPERATIONS

The adequacy of the study area's sidewalks, crosswalks, and corner reservoir capacities in relation to the demand imposed on them is evaluated based on the methodologies presented in the 2010 *HCM*, pursuant to procedures detailed in the *CEQR Technical Manual*.

The primary performance measure for sidewalks and walkways is pedestrian space, expressed as square feet per pedestrian (SFP), which is an indicator of the quality of pedestrian movement and comfort. The calculation of the sidewalk SFP is based on the pedestrian volumes by direction, the effective sidewalk or walkway width, and average walking speed. The SFP forms the basis for a sidewalk LOS analysis. The determination of sidewalk LOS is also dependent on whether the pedestrian flow being analyzed is best described as "non-platoon" or "platoon." Non-platoon flow occurs when pedestrian volume within the peak 15-minute period is relatively uniform, whereas, platoon flow occurs when pedestrian volumes vary significantly with the peak 15-minute period. Such variation typically occurs near bus stops, subway stations, and/or where adjacent crosswalks account for much of the walkway's pedestrian volume.

Crosswalks and street corners are not easily measured in terms of free pedestrian flow, as they are influenced by the effects of traffic signals. Street corners must be able to provide sufficient space for a mix of standing pedestrians (queued to cross a street) and circulating pedestrians (crossing the street or moving around the corner). The *HCM* methodologies apply a measure of time and space availability based on the area of the corner, the timing of the intersection signal, and the estimated space used by circulating pedestrians.

The total "time-space" available for these activities, expressed in square feet-second, is calculated by multiplying the net area of the corner (in square feet) by the signal's cycle length. The analysis then determines the total circulation time for all pedestrian movements at the corner per signal cycle (expressed as pedestrians per second). The ratio of net time-space divided by the total pedestrian circulation volume per signal cycle provides the LOS measurement of SFP.

Crosswalk LOS is also a function of time and space. Similar to the street corner analysis, crosswalk conditions are first expressed as a measurement of the available area (the crosswalk width multiplied by the width of the street) and the permitted crossing time. This measure is expressed in square feet-second. The average time required for a pedestrian to cross the street is calculated based on the width of the street and an assumed walking speed. The ratio of time-space available in the crosswalk to the total crosswalk pedestrian occupancy time is the LOS measurement of available square feet per pedestrian. The LOS analysis also accounts for vehicular turning movements that traverse the crosswalk. The LOS standards for sidewalks,

corner reservoirs, and crosswalks are summarized in **Table 12-13**. The *CEQR Technical Manual* specifies acceptable LOS in Central Business District (CBD) areas is mid-LOS D or better.

Table 12-13
Level of Service Criteria for Pedestrian Elements

LOS	Sidewalks		Corner Reservoirs and Crosswalks
	Non-Platoon Flow	Platoon Flow	
A	> 60 SFP	> 530 SFP	> 60 SFP
B	> 40 and ≤ 60 SFP	> 90 and ≤ 530 SFP	> 40 and ≤ 60 SFP
C	> 24 and ≤ 40 SFP	> 40 and ≤ 90 SFP	> 24 and ≤ 40 SFP
D	> 15 and ≤ 24 SFP	> 23 and ≤ 40 SFP	> 15 and ≤ 24 SFP
E	> 8 and ≤ 15 SFP	> 11 and ≤ 23 SFP	> 8 and ≤ 15 SFP
F	≤ 8 SFP	≤ 11 SFP	≤ 8 SFP

Note: SFP = square feet per pedestrian.
Source: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual*.

SIGNIFICANT IMPACT CRITERIA

The determination of significant pedestrian impacts considers the level of predicted decrease in pedestrian space between the No Action and With Action conditions. For different pedestrian elements, flow conditions, and area types, the CEQR procedure for impact determination corresponds with various sliding-scale formulas, as further detailed below.

Sidewalks

There are two sliding-scale formulas for determining significant sidewalk impacts. For non-platoon flow, the determination of significant sidewalk impacts is based on the sliding scale using the following formula: $Y \geq X/9.0 - 0.31$, where Y is the decrease in pedestrian space in SFP and X is the No Action pedestrian space in SFP. For platoon flow, the sliding-scale formula is $Y \geq X/(9.5 - 0.321)$. Since a decrease in pedestrian space within acceptable levels would not constitute a significant impact, these formulas would apply only if the With Action pedestrian space falls short of LOS C in non-CBD areas or mid-LOS D in CBD areas. **Table 12-14** summarizes the sliding scale guidance provided by the *CEQR Technical Manual* for determining potential significant sidewalk impacts.

Corner Reservoirs and Crosswalks

The determination of significant corner and crosswalk impacts is also based on a sliding scale using the following formula: $Y \geq X/9.0 - 0.31$, where Y is the decrease in pedestrian space in SFP and X is the No Action pedestrian space in SFP. Since a decrease in pedestrian space within acceptable levels would not constitute a significant impact, this formula would apply only if the With Action pedestrian space falls short of LOS C in non-CBD areas or mid-LOS D in CBD areas. **Table 12-15** summarizes the sliding scale guidance provided by the *CEQR Technical Manual* for determining potential significant corner reservoir and crosswalk impacts.

Table 12-14
Significant Impact Guidance for Sidewalks

Non-Platoon Flow				Platoon Flow			
Sliding Scale Formula: ***Y ≥ X/9.0 – 0.31***				**Sliding Scale Formula:** ***Y ≥ X/(9.5 – 0.321)***			
Non-CBD Areas		**CBD Areas**		**Non-CBD Areas**		**CBD Areas**	
No Action Ped. Space (X, SFP)	**With Action Ped. Space Reduc. (Y, SFP)**	**No Action Ped. Space (X, SFP)**	**With Action Ped. Space Reduc. (Y, SFP)**	**No Action Ped. Space (X, SFP)**	**With Action Ped. Space Reduc. (Y, SFP)**	**No Action Ped. Space (X, SFP)**	**With Action Ped. Space Reduc. (Y, SFP)**
–	–	–	–	43.5 to 44.3	≥ 4.3	–	–
–	–	–	–	42.5 to 43.4	≥ 4.2	–	–
–	–	–	–	41.6 to 42.4	≥ 4.1	–	–
–	–	–	–	40.6 to 41.5	≥ 4.0	–	–
–	–	–	–	39.7 to 40.5	≥ 3.9	–	–
–	–	–	–	38.7 to 39.6	≥ 3.8	38.7 to 39.2	≥ 3.8
–	–	–	–	37.8 to 38.6	≥ 3.7	37.8 to 38.6	≥ 3.7
–	–	–	–	36.8 to 37.7	≥ 3.6	36.8 to 37.7	≥ 3.6
–	–	–	–	35.9 to 36.7	≥ 3.5	35.9 to 36.7	≥ 3.5
–	–	–	–	34.9 to 35.8	≥ 3.4	34.9 to 35.8	≥ 3.4
–	–	–	–	34.0 to 34.8	≥ 3.3	34.0 to 34.8	≥ 3.3
–	–	–	–	33.0 to 33.9	≥ 3.2	33.0 to 33.9	≥ 3.2
–	–	–	–	32.1 to 32.9	≥ 3.1	32.1 to 32.9	≥ 3.1
–	–	–	–	31.1 to 32.0	≥ 3.0	31.1 to 32.0	≥ 3.0
–	–	–	–	30.2 to 31.0	≥ 2.9	30.2 to 31.0	≥ 2.9
–	–	–	–	29.2 to 30.1	≥ 2.8	29.2 to 30.1	≥ 2.8
25.8 to 26.6	≥ 2.6	–	–	28.3 to 29.1	≥ 2.7	28.3 to 29.1	≥ 2.7
24.9 to 25.7	≥ 2.5	–	–	27.3 to 28.2	≥ 2.6	27.3 to 28.2	≥ 2.6
24.0 to 24.8	≥ 2.4	–	–	26.4 to 27.2	≥ 2.5	26.4 to 27.2	≥ 2.5
23.1 to 23.9	≥ 2.3	–	–	25.4 to 26.3	≥ 2.4	25.4 to 26.3	≥ 2.4
22.2 to 23.0	≥ 2.2	–	–	24.5 to 25.3	≥ 2.3	24.5 to 25.3	≥ 2.3
21.3 to 22.1	≥ 2.1	21.3 to 21.5	≥ 2.1	23.5 to 24.4	≥ 2.2	23.5 to 24.4	≥ 2.2
20.4 to 21.2	≥ 2.0	20.4 to 21.2	≥ 2.0	22.6 to 23.4	≥ 2.1	22.6 to 23.4	≥ 2.1
19.5 to 20.3	≥ 1.9	19.5 to 20.3	≥ 1.9	21.6 to 22.5	≥ 2.0	21.6 to 22.5	≥ 2.0
18.6 to 19.4	≥ 1.8	18.6 to 19.4	≥ 1.8	20.7 to 21.5	≥ 1.9	20.7 to 21.5	≥ 1.9
17.7 to 18.5	≥ 1.7	17.7 to 18.5	≥ 1.7	19.7 to 20.6	≥ 1.8	19.7 to 20.6	≥ 1.8
16.8 to 17.6	≥ 1.6	16.8 to 17.6	≥ 1.6	18.8 to 19.6	≥ 1.7	18.8 to 19.6	≥ 1.7
15.9 to 16.7	≥ 1.5	15.9 to 16.7	≥ 1.5	17.8 to 18.7	≥ 1.6	17.8 to 18.7	≥ 1.6
15.0 to 15.8	≥ 1.4	15.0 to 15.8	≥ 1.4	16.9 to 17.7	≥ 1.5	16.9 to 17.7	≥ 1.5
14.1 to 14.9	≥ 1.3	14.1 to 14.9	≥ 1.3	15.9 to 16.8	≥ 1.4	15.9 to 16.8	≥ 1.4
13.2 to 14.0	≥ 1.2	13.2 to 14.0	≥ 1.2	15.0 to 15.8	≥ 1.3	15.0 to 15.8	≥ 1.3
12.3 to 13.1	≥ 1.1	12.3 to 13.1	≥ 1.1	14.0 to 14.9	≥ 1.2	14.0 to 14.9	≥ 1.2
11.4 to 12.2	≥ 1.0	11.4 to 12.2	≥ 1.0	13.1 to 13.9	≥ 1.1	13.1 to 13.9	≥ 1.1
10.5 to 11.3	≥ 0.9	10.5 to 11.3	≥ 0.9	12.1 to 13.0	≥ 1.0	12.1 to 13.0	≥ 1.0
9.6 to 10.4	≥ 0.8	9.6 to 10.4	≥ 0.8	11.2 to 12.0	≥ 0.9	11.2 to 12.0	≥ 0.9
8.7 to 9.5	≥ 0.7	8.7 to 9.5	≥ 0.7	10.2 to 11.1	≥ 0.8	10.2 to 11.1	≥ 0.8
7.8 to 8.6	≥ 0.6	7.8 to 8.6	≥ 0.6	9.3 to 10.1	≥ 0.7	9.3 to 10.1	≥ 0.7
6.9 to 7.7	≥ 0.5	6.9 to 7.7	≥ 0.5	8.3 to 9.2	≥ 0.6	8.3 to 9.2	≥ 0.6
6.0 to 6.8	≥ 0.4	6.0 to 6.8	≥ 0.4	7.4 to 8.2	≥ 0.5	7.4 to 8.2	≥ 0.5
5.1 to 5.9	≥ 0.3	5.1 to 5.9	≥ 0.3	6.4 to 7.3	≥ 0.4	6.4 to 7.3	≥ 0.4
< 5.1	≥ 0.2	< 5.1	≥ 0.2	< 6.4	≥ 0.3	< 6.4	≥ 0.3

Notes: SFP = square feet per pedestrian; Y = decrease in pedestrian space in SFP; X = No Action pedestrian space in SFP.
Source: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual*.

Table 12-15
Significant Impact Guidance for Corners and Crosswalks

Sliding Scale Formula: *Y ≥ X/9.0 – 0.31*			
Non-CBD Areas		**CBD Areas**	
No Action Pedestrian Space (X, SFP)	**With Action Pedestrian Space Reduction (Y, SFP)**	**No Action Pedestrian Space (X, SFP)**	**With Action Pedestrian Space Reduction (Y, SFP)**
25.8 to 26.6	≥ 2.6	–	–
24.9 to 25.7	≥ 2.5	–	–
24.0 to 24.8	≥ 2.4	–	–
23.1 to 23.9	≥ 2.3	–	–
22.2 to 23.0	≥ 2.2	–	–
21.3 to 22.1	≥ 2.1	21.3 to 21.5	≥ 2.1
20.4 to 21.2	≥ 2.0	20.4 to 21.2	≥ 2.0
19.5 to 20.3	≥ 1.9	19.5 to 20.3	≥ 1.9
18.6 to 19.4	≥ 1.8	18.6 to 19.4	≥ 1.8
17.7 to 18.5	≥ 1.7	17.7 to 18.5	≥ 1.7
16.8 to 17.6	≥ 1.6	16.8 to 17.6	≥ 1.6
15.9 to 16.7	≥ 1.5	15.9 to 16.7	≥ 1.5
15.0 to 15.8	≥ 1.4	15.0 to 15.8	≥ 1.4
14.1 to 14.9	≥ 1.3	14.1 to 14.9	≥ 1.3
13.2 to 14.0	≥ 1.2	13.2 to 14.0	≥ 1.2
12.3 to 13.1	≥ 1.1	12.3 to 13.1	≥ 1.1
11.4 to 12.2	≥ 1.0	11.4 to 12.2	≥ 1.0
10.5 to 11.3	≥ 0.9	10.5 to 11.3	≥ 0.9
9.6 to 10.4	≥ 0.8	9.6 to 10.4	≥ 0.8
8.7 to 9.5	≥ 0.7	8.7 to 9.5	≥ 0.7
7.8 to 8.6	≥ 0.6	7.8 to 8.6	≥ 0.6
6.9 to 7.7	≥ 0.5	6.9 to 7.7	≥ 0.5
6.0 to 6.8	≥ 0.4	6.0 to 6.8	≥ 0.4
5.1 to 5.9	≥ 0.3	5.1 to 5.9	≥ 0.3
< 5.1	≥ 0.2	< 5.1	≥ 0.2
Notes: SFP = square feet per pedestrian; Y = decrease in pedestrian space in SFP; X = No Action pedestrian space in SFP.			
Source: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual*.			

VEHICULAR AND PEDESTRIAN SAFETY EVALUATION

An evaluation of vehicular and pedestrian safety is necessary for locations within the traffic and pedestrian study areas that have been identified as high accident locations, where 48 or more total reportable and non-reportable crashes or five or more pedestrian/bicyclist injury crashes occurred in any consecutive 12 months of the most recent 3-year period for which data are available. For these locations, accident trends are identified to determine whether projected vehicular and pedestrian traffic would further impact safety at these locations. The determination of potential significant safety impacts depends on the type of area where the project site is located, traffic volumes, accident types and severity, and other contributing factors. Where appropriate, measures to improve traffic and pedestrian safety are identified and coordinated with NYCDOT for their approval.

PARKING CONDITIONS ASSESSMENT

The parking analysis identifies the extent to which off-street parking is available and utilized under existing and future conditions. It takes into consideration anticipated changes in area parking supply and provides a comparison of parking needs versus availability to determine if a parking shortfall is likely to result from parking displacement attributable to or additional demand generated by a proposed project. Typically, this analysis encompasses a study area within a ¼-mile of the project site. If the analysis concludes a shortfall in parking within the ¼-mile study area, the study area could sometimes be extended to a ½-mile to identify additional parking supply.

For proposed projects located in Manhattan or other CBD areas, the inability of the proposed project or the surrounding area to accommodate the project's future parking demand is considered a parking shortfall, but is generally not considered significant due to the magnitude of available alternative modes of transportation. For other areas in New York City, a parking shortfall that exceeds more than half the available on-street and off-street parking spaces within a ¼-mile of the project site may be considered significant. Additional factors, such as the availability and extent of transit in the area, proximity of the project to such transit, and patterns of automobile usage by area residents, could be considered to determine the significance of the identified parking shortfall. In some cases, if there is adequate parking supply within a ½-mile of the project site, the projected parking shortfall may also not necessarily be considered significant.

D. DETAILED TRAFFIC ANALYSIS

As described above in Section B, "Preliminary Analysis Methodology and Screening Assessment," 16 traffic analysis locations have been selected for detailed analysis for the weekday AM, midday, and PM peak hours. All analysis intersections are signalized except for the intersections of East 181st Street and Vyse Avenue, Lebanon Street and Devoe Avenue, East 179th Street and Boston Road, East 179th Street and Devoe Avenue, and Wyatt Street and Devoe Avenue.

2014 EXISTING CONDITIONS

ROADWAY NETWORK AND TRAFFIC STUDY AREA

The proposed project is located in the West Farms section of the Bronx and the traffic study area is generally characterized by local streets and arterials. The major roadways passing through the study area are described below.

East Tremont Avenue is major two-way eastbound and westbound arterial which runs from the Grand Concourse to the southeastern edge of the Bronx. Within the study area, it generally operates with two to three moving lanes during peak hours with parking on both sides of the street.

Boston Road is a major two-way roadway which runs from the southern edge of the Bronx Zoo to Third Avenue. Within the study area, it operates with one moving lane in each direction during peak hours. Curbside parking is available along Boston Road north of East 179th Street.

East 180th Street is a two-way eastbound and westbound roadway which runs from Grand Concourse to East Tremont Avenue. Within the study area, it generally operates with one moving lane with pocket turning lanes at intersection approaches and with parking on both sides of the street.

East 177th Street a two-way roadway which runs from East Tremont Avenue to the Bronx River Parkway. Within the study area, it operates with two to three moving lanes during peak hours with limited curbside parking.

Traffic in the area is also fed by or into by various regional highways including the Cross Bronx Expressway and Sheridan Expressway (which are located south of the Development Site) and the Bronx River Parkway (which is located east of the Development Site).

TRAFFIC CONDITIONS

Traffic data were collected in November 2014 for the weekday AM, midday, and PM peak periods via a combination of manual intersection counts and 24-hour Automatic Traffic Recorder (ATR) machine counts. 2014 existing peak period traffic volumes were developed based on these counts. For analysis, the highest peak hour traffic volumes (from 7:30 AM to 8:30 AM, 1:00 PM to 2:00 PM, and 4:15 PM to 5:15 PM) during the respective peak periods based on the collected data were used.

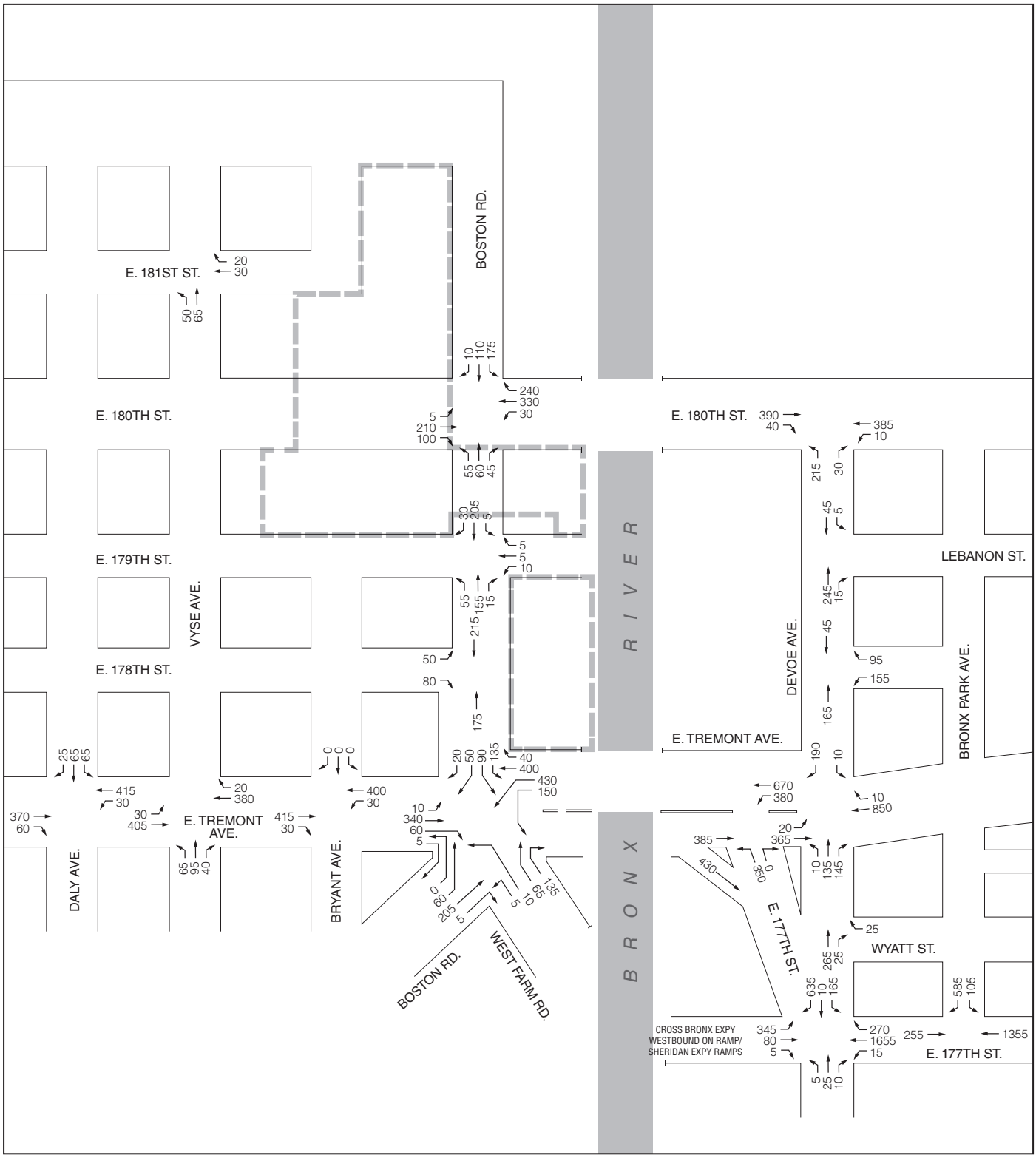
Inventories of roadway geometry, traffic controls, bus stops, and parking regulations/activities were recorded to provide appropriate inputs for the operational analyses. Official signal timings were also obtained from NYCDOT for use in the analysis of the study area signalized intersections. **Figures 12-11 through 12-13** show the 2014 existing traffic volumes for the weekday AM, midday, and PM peak hours, respectively.

LEVELS OF SERVICE

A summary of the 2014 existing conditions traffic analysis results is presented in **Table 12-16**. Details on level-of-service, v/c ratios, and average delays are presented in **Tables 12-17 and 12-18**. Overall, the capacity analysis indicates that most of the study area's intersection approaches/lane groups operate acceptably—at mid-LOS D or better (delays of 45 seconds or fewer per vehicle for signalized intersections and 30 seconds or fewer per vehicle for unsignalized intersections) for the peak hours. Approaches/lane groups operating beyond mid-LOS D are listed below.

- Westbound approach at the East 180th Street and Boston Road intersection (LOS E with a delay of 63.5 seconds per vehicle (spv) during the weekday AM peak hour; and LOS E with a delay of 66.5 spv during the weekday PM peak hour);
- Eastbound approach at the East 178th Street and Boston Road intersection (LOS D with a delay of 47.7 spv during the weekday PM peak hour);
- Eastbound approach at the East Tremont Avenue and Boston Road/West Farms Road intersection (LOS D with a delay of 46.2 spv during the weekday AM peak hour; and LOS D with a delay of 45.7 spv during the weekday PM peak hour);
- Northbound approach at the East Tremont Avenue and Vyse Avenue intersection (LOS D with a delay of 53.5 spv during the weekday PM peak hour);
- Westbound approach at the East Tremont Avenue and Boston Road/West Farms Road intersection (LOS F with a delay of 85.7 spv during the weekday AM peak hour; and LOS D with a delay of 46.1 spv during the weekday PM peak hour);
- Northbound (West Farms Road) right-turn ~~approach~~ at the East Tremont Avenue and Boston Road/West Farms Road intersection (LOS F with a delay of ~~121.9~~134.9 spv during the weekday AM peak hour; LOS F with a delay of ~~117.1~~125.3 spv during the weekday midday peak hour; and LOS F with delay of ~~121.2~~123.8 spv during the weekday PM peak hour);
- Northbound (Boston Road) approach at the East Tremont Avenue and Boston Road/West Farms Road intersection (LOS F with a delay of 107.3 spv during the weekday AM peak hour; LOS F with a delay of 84.5 spv during the weekday midday peak hour; and LOS F with delay of 109.5 spv during the weekday PM peak hour);
- Southbound defacto left-turn at the East Tremont Avenue and Boston Road/West Farms Road intersection (~~LOS F with a delay of 141.6 spv during the weekday AM peak hour; LOS F with a delay of 136.1 spv during the weekday midday peak hour; and~~ LOS F with a delay of 133.6 spv during the weekday PM peak hour);

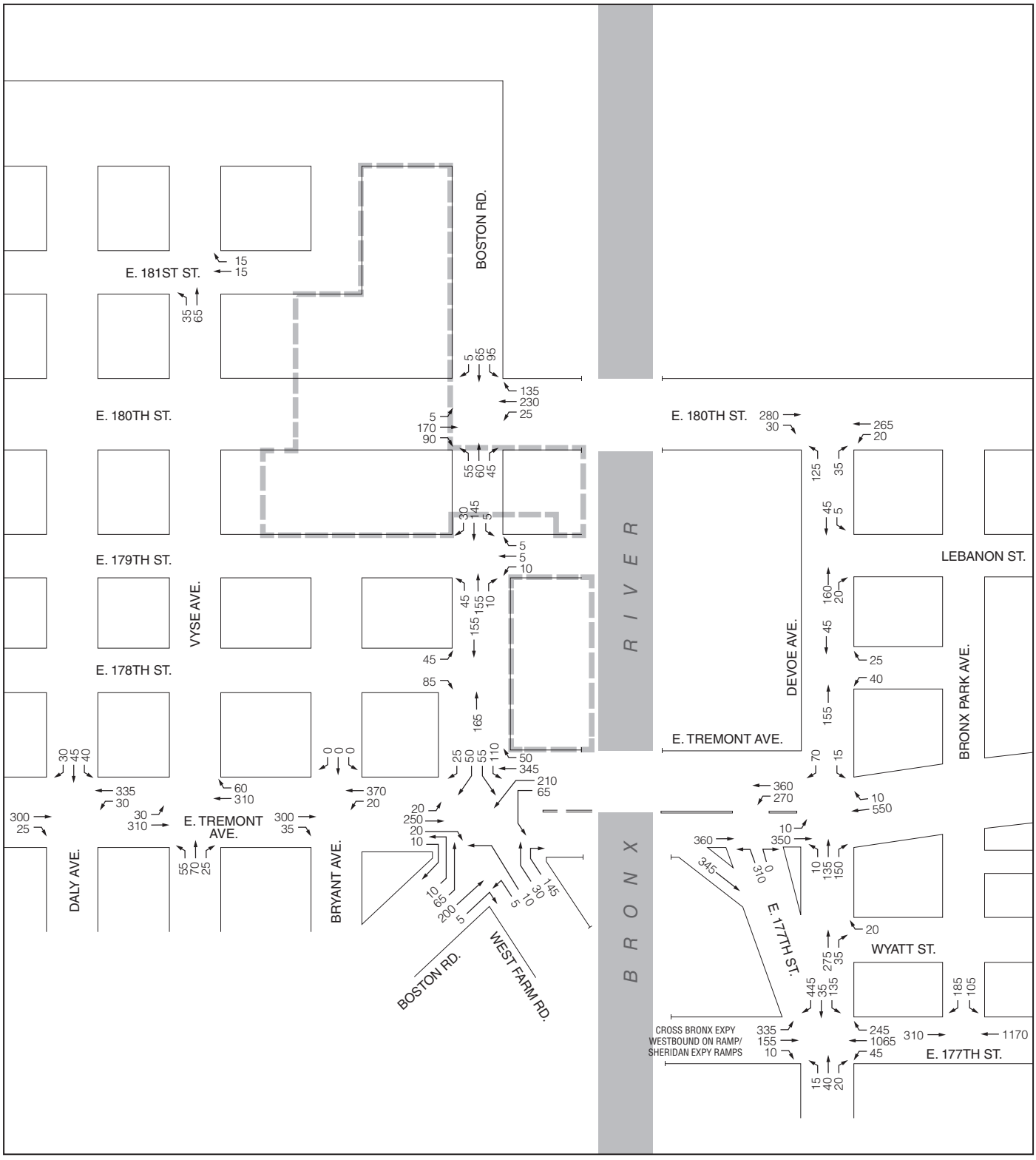
6.22.16



Project Area Boundary

2014 Existing Traffic Volumes
Weekday AM Peak Hour
Figure 12-11

6.22.16

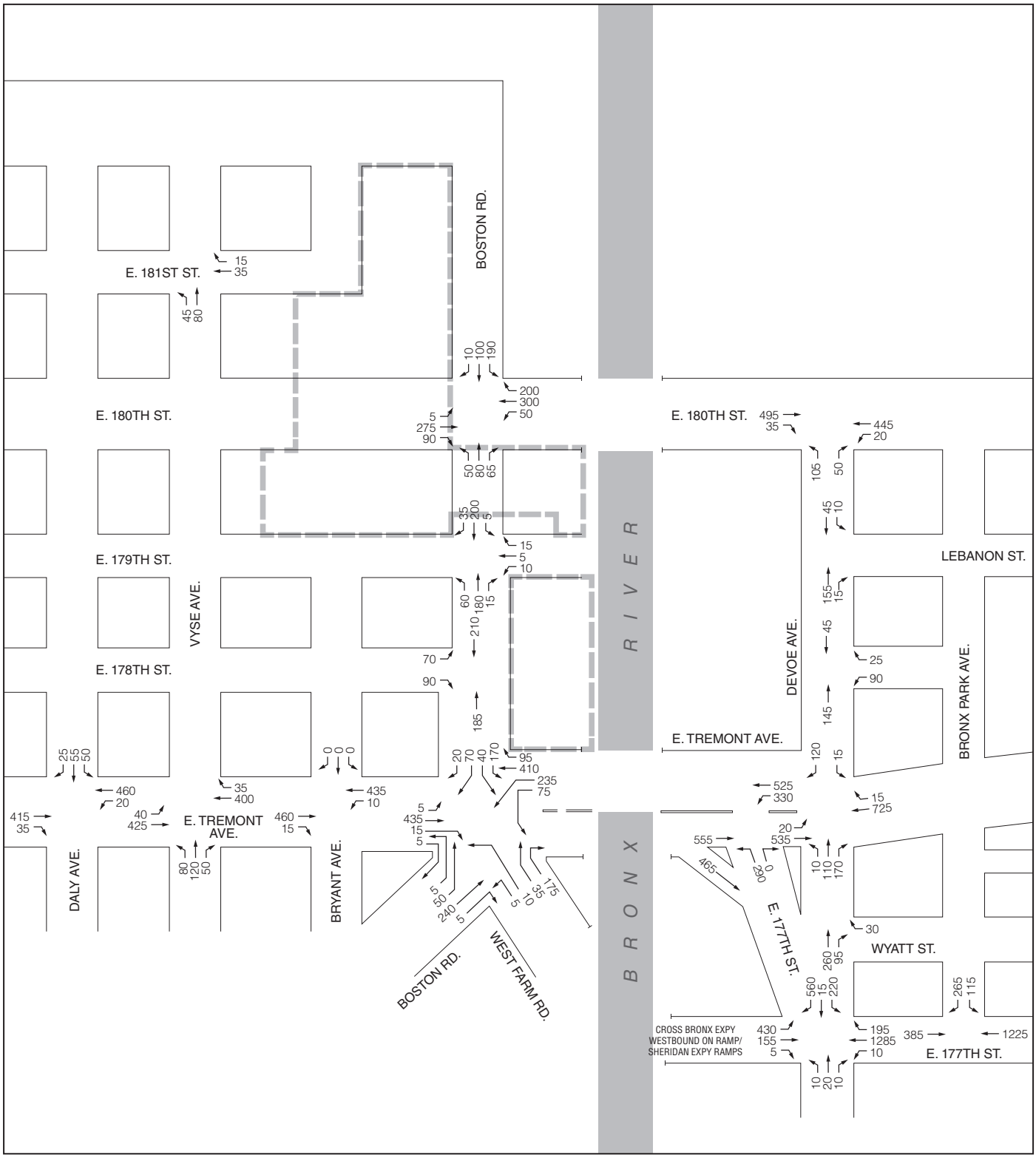


Project Area Boundary

2014 Existing Traffic Volumes
Weekday Midday Peak Hour

Figure 12-12

6.22.16



Project Area Boundary

2014 Existing Traffic Volumes
Weekday PM Peak Hour
Figure 12-13

- Southbound approach at the East Tremont Avenue and Boston Road/West Farms Road intersection (LOS F with a delay of 89.8 spv during the weekday AM peak hour; and LOS D with a delay of 49.3 spv during the weekday midday peak hour);
- Southbound through/right-turn at the East Tremont Avenue and Boston Road/West Farms Road intersection (~~LOS E with a delay of 59.2 spv during the weekday AM peak hour; and~~ LOS D with a delay of 53.8 spv during the weekday PM peak hour);
- Westbound left-turn at the East Tremont Avenue and East 177th Street intersection (LOS E with a delay of 74.5 spv during the weekday AM peak hour; and LOS E with a delay of 71.8 spv during the weekday PM peak hour);
- Eastbound left-turn at the East 177th Street and Sheridan Expressway intersection (LOS F with a delay of 108.9 spv during the weekday AM peak hour; LOS F with a delay of 99.5 spv during the weekday midday peak hour; and LOS F with a delay of 102.8 spv during the weekday PM peak hour);
- Westbound left-turn/through at the East 177th Street and Sheridan Expressway intersection (LOS E with a delay of 67.3 spv during the weekday AM peak hour; and LOS E with a delay of 76.1 spv during the weekday PM peak hour);
- Northbound approach at the East 177th Street and Sheridan Expressway intersection (LOS D with a delay of ~~52.8~~53.0 spv during the weekday AM peak hour; LOS F with a delay of ~~108.5~~96.7 spv during the weekday midday peak hour; and LOS ~~E~~ D with a delay of ~~63.3~~52.8 spv during the weekday PM peak hour);
- Southbound left-turn/through at the East 177th Street and Sheridan Expressway intersection (LOS F with a delay of ~~131.6~~130.8 spv during the weekday AM peak hour; LOS F with a delay of ~~135.5~~131.4 spv during the weekday midday peak hour; and LOS F with a delay of ~~124.8~~123.3 spv during the weekday PM peak hour);
- Southbound right-turn at the East 177th Street and Bronx Park Avenue intersection (LOS F with a delay of 91.9 spv during the weekday AM peak hour); and
- Westbound approach at the East 179th Street and Boston Road intersection (LOS D with a v/c ratio of 0.14 and delay of 33.5 spv during the weekday AM peak hour).

Table 12-16
Summary of 2014 Existing Traffic Analysis Results

Level of Service	Analysis Peak Hours		
	Weekday AM	Weekday Midday	Weekday PM
Signalized Intersections			
Lane Groups at LOS A/B/C	28	~~34~~35	27
Lane Groups below mid-LOS D	~~2~~3	~~4~~3	~~8~~6
Lane Groups above mid-LOS D	3	~~0~~1	4
Lane Groups at LOS E	4	0	~~4~~3
Lane Groups at LOS F	~~7~~6	~~6~~5	5
Total	44	44	~~44~~45
Unsignalized Intersections			
Lane Groups at LOS A/B/C	6	7	7
Lane Groups below mid-LOS D	0	0	0
Lane Groups above mid-LOS D	1	0	0
Lane Groups at LOS E	0	0	0
Lane Groups at LOS F	0	0	0
Total	7	7	7

Notes: LOS = Level-of-Service.

Table 12-17
2014 Existing Conditions Level of Service Analysis
Signalized Intersections

Intersection	Weekday AM				Weekday Midday				Weekday PM			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
East 180th Street and Boston Road												
EB	L	0.03	18.1	B	L	0.02	14.1	B	L	0.02	17.9	B
	TR	0.68	32.0	C	TR	0.46	19.9	B	TR	0.61	28.6	C
WB	LTR	0.98	63.5	E	LTR	0.68	25.7	C	LTR	0.99	66.5	E
NB	LTR	0.41	24.3	C	LTR	0.37	18.6	B	LTR	0.42	24.2	C
SB	LTR	0.66	32.4	C	LTR	0.39	19.1	B	LTR	0.71	35.0	D
	Intersection		43.9	D	Intersection		21.7	C	Intersection		43.7	D
East 180th Street and Devoe Avenue												
EB	TR	0.73	33.1	C	TR	0.50	20.3	C	TR	0.79	36.0	D
WB	LT	0.67	30.4	C	LT	0.49	20.4	C	LT	0.67	30.3	C
NB	LR	0.42	23.7	C	LR	0.27	16.7	B	LR	0.26	20.9	C
	Intersection		29.8	C	Intersection		19.6	B	Intersection		31.5	C
East 178th Street and Boston Road												
EB	LR	0.52	44.8	D	LR	0.35	24.2	C	LR	0.61	47.7	D
NB	T	0.21	8.7	A	T	0.19	10.9	B	T	0.18	8.3	A
SB	T	0.21	8.5	A	T	0.18	10.8	B	T	0.22	8.7	A
	Intersection		17.6	B	Intersection		15.0	B	Intersection		20.4	C
East Tremont Avenue and Daly Avenue												
EB	TR	0.43	11.0	B	TR	0.37	10.8	B	TR	0.43	11.0	B
WB	LT	0.49	12.0	B	LT	0.43	11.7	B	LT	0.44	11.0	B
SB	LTR	0.48	41.7	D	LTR	0.31	26.1	C	LTR	0.39	39.5	D
	Intersection		16.4	B	Intersection		13.6	B	Intersection		14.9	B
East Tremont Avenue and Vyse Avenue												
EB	LT	0.47	11.6	B	LT	0.39	11.0	B	LT	0.47	11.6	B
WB	TR	0.42	10.8	B	TR	0.43	11.6	B	TR	0.40	10.6	B
NB	LTR	0.59	45.0	D	LTR	0.39	27.3	C	LTR	0.75	53.5	D
	Intersection		18.0	B	Intersection		14.4	B	Intersection		21.1	C
East Tremont Avenue and Bryant Avenue												
EB	TR	0.45	11.3	B	TR	0.39	12.5	B	TR	0.42	10.9	B
WB	LT	0.46	11.5	B	LT	0.47	13.8	B	LT	0.43	10.9	B
	Intersection		11.4	B	Intersection		13.2	B	Intersection		10.9	B
East Tremont Ave and Boston Road/West Farms Road												
EB	LTR	0.64	46.2	D	LTR	0.48	33.5	C	LTR	0.62	45.7	D
WB	LTR	1.05	85.7	F	LTR	0.80	40.3	D	LTR	0.74	46.1	D
NB (West Farms Road)	~~LTR~~	~~1~~0.05~~3~~0	~~121.9~~43.5	~~F~~D	~~LTR~~	~~1.05~~0.21	~~117.1~~34.4	~~F~~C	~~LTR~~	~~1.05~~0.18	~~121.2~~41.1	~~F~~D
	R	1.04	134.9	F	R	1.05	125.3	F	R	1.03	123.8	F
NB (Boston Road)	LTR	1.02	107.3	F	LTR	0.99	84.5	F	LTR	1.04	109.5	F
SB	~~DefL-~~	~~1.05-~~	~~141.6-~~	~~F-~~	~~DefL-~~	~~1.05-~~	~~136.1-~~	~~F-~~	DefL	1.05	133.6	F
	LTR	0.96	89.8	F	LTR	0.75	49.3	D	-	-	-	-
	~~TR-~~	~~0.67-~~	~~59.2-~~	~~E-~~	~~TR-~~	~~0.50-~~	~~40.7-~~	~~D-~~	TR	0.56	53.8	D
	Intersection		~~85.9~~83.0	F	Intersection		~~61.4~~55.0	E	Intersection		~~70.7~~69.0	E
East Tremont Avenue and East 177th Street												
EB	T	0.19	19.5	B	T	0.18	15.3	B	T	0.24	17.2	B
WB	L	0.98	74.5	E	L	0.84	42.5	D	L	0.97	71.8	E
	LT	0.57	25.5	C	LT	0.26	16.1	B	LT	0.44	20.2	C
NB	LR	0.27	20.5	C	LR	0.23	15.8	B	LR	0.21	22.6	C
	Intersection		31.8	C	Intersection		21.2	C	Intersection		28.7	C
East Tremont Avenue and Devoe Avenue												
EB	LT	0.27	20.4	C	LT	0.21	11.8	B	LT	0.31	21.0	C
WB	TR	0.68	28.2	C	TR	0.38	13.5	B	TR	0.60	26.1	C
NB	LTR	0.47	24.9	C	LTR	0.61	28.3	C	LTR	0.52	25.9	C
SB	LR	0.31	21.6	C	LR	0.19	20.3	C	LR	0.22	20.2	C
	Intersection		25.1	C	Intersection		16.7	B	Intersection		24.1	C

Table 12-17
2014 Existing Conditions Level of Service Analysis
Signalized Intersections

Intersection	Weekday AM				Weekday Midday				Weekday PM			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
East 177th Street and Sheridan Expressway												
EB	L	1.05	108.9	F	L	1.02	99.5	F	L	1.05	102.8	F
	TR	0.07	5.5	A	TR	0.14	5.9	A	TR	0.12	5.8	A
WB	LT	1.05	67.3	E	LT	0.92	43.8	D	LT	1.05	76.1	E
	R	0.40	22.2	C	R	0.43	25.1	C	R	0.34	25.9	C
NB	LTR	~~0.34~~0.35	~~52.8~~53.0	D	LTR	~~0.88~~0.82	~~108.5~~96.7	F	LTR	~~0.51~~0.32	~~63.3~~52.8	~~E~~D
SB	LT	~~1.05~~1.04	~~131.6~~130.8	F	LT	~~1.05~~1.04	~~135.5~~131.4	F	LT	1.05	~~124.8~~123.3	F
	R	~~0.61~~0.62	~~29.2~~29.6	C	R	0.41	22.7	C	R	0.45	21.0	C
	Intersection		~~62.2~~62.1	E	Intersection		~~51.3~~50.5	D	Intersection		~~66.1~~65.9	E
East 177th Street and Bronx Park Avenue												
EB	T	0.12	11.4	B	T	~~0.16~~0.15	11.6	B	T	0.18	~~11.9~~11.8	B
WB	T	0.54	16.0	B	T	0.66	18.8	B	T	0.64	18.3	B
SB	LR	0.17	28.8	C	LR	0.20	29.2	C	LR	0.18	28.9	C
	R	1.05	91.9	F	R	0.39	32.5	C	R	0.46	34.1	C
	Intersection		35.3	D	Intersection		~~19.8~~19.9	B	Intersection		19.7	B

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn, LOS = Level of Service, EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound.

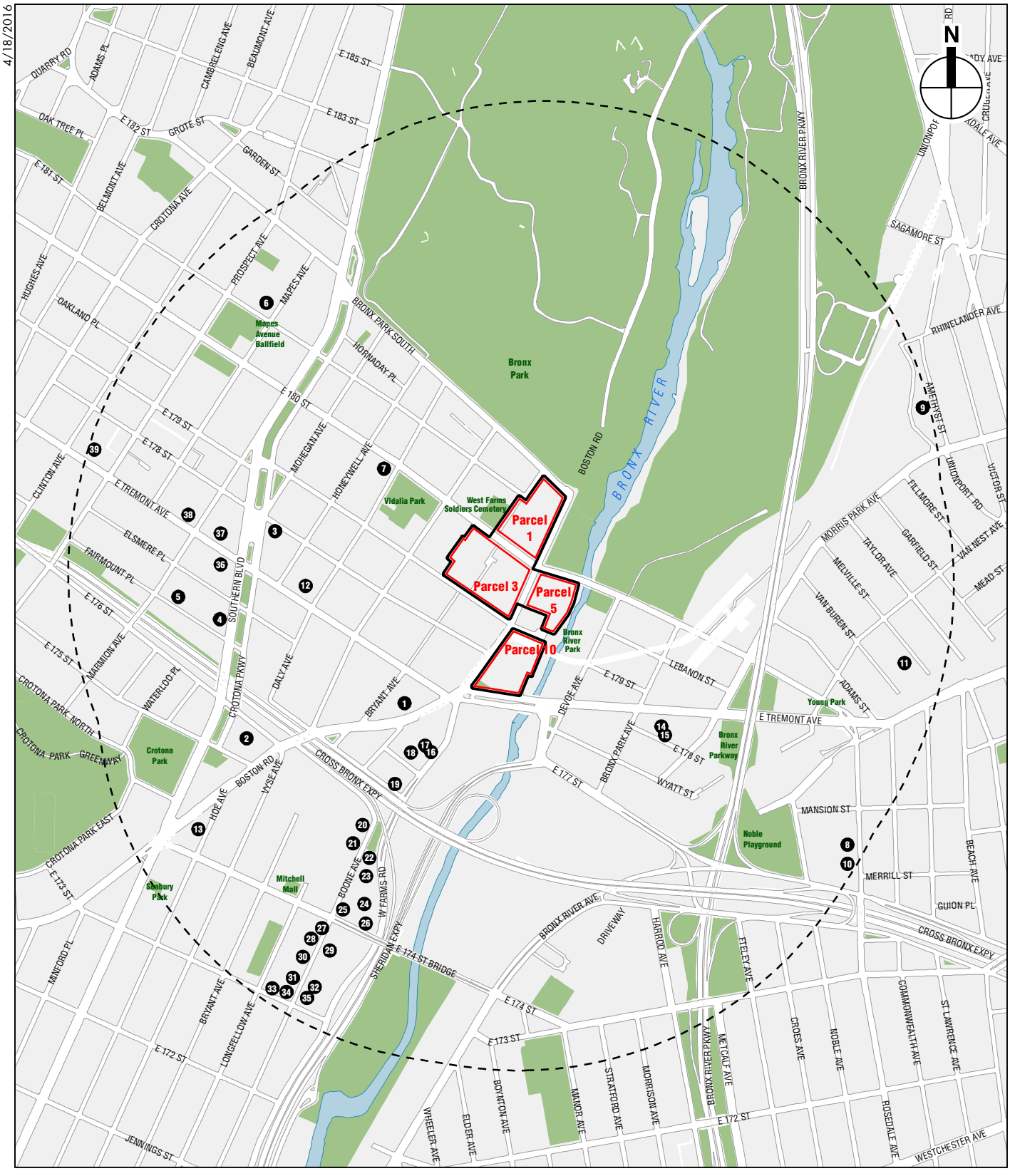
Table 12-18
2014 Existing Conditions Level of Service Analysis
Unsignalized Intersections

Intersection	Weekday AM				Weekday Midday				Weekday PM			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
East 181st Street and Vyse Avenue												
NB	LT	0.19	10.8	B	LT	0.15	10.2	B	LT	0.18	10.7	B
Lebanon Street and Devoe Avenue												
SB	LT	0.01	8.3	A	LT	0.00	7.8	A	LT	0.01	7.7	A
East 179th Street and Boston Road												
WB	LTR	0.14	33.5	D	LTR	0.05	13.2	B	LTR	0.10	17.4	C
NB	LTR	0.13	13.7	B	LTR	0.04	8.3	A	LTR	0.08	9.5	A
SB	LTR	0.01	9.6	A	LTR	0.00	7.9	A	LTR	0.01	8.6	A
East 179th Street and Devoe Avenue												
WB	LR	0.37	12.4	B	LR	0.10	10.0	B	LR	0.18	10.7	B
Wyatt Street and Devoe Avenue												
WB	R	0.05	11.3	B	R	0.04	11.5	B	R	0.08	13.0	B

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn, LOS = Level of Service, EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound.

THE FUTURE WITHOUT THE PROPOSED PROJECT

The No Action condition was developed by increasing 2014 existing traffic levels by the expected growth in overall travel through and within the study area. As per *CEQR Technical Manual* guidelines, an annual background growth rate of 0.25 percent was assumed for the first five years (year 2014 to year 2019) and then 0.125 percent for the remaining years (year 2019 to year 2029). A total of 39 development projects expected to occur in the No Action condition (No Build projects) were identified as being planned for the ½-mile study area (see **Figure 12-14**). However, some of these planned projects are modest in size and would be very modest traffic generators. After reviewing the development programs for each of the planned projects, it was determined that background growth



Development Site

Study Area (1/2 Mile boundary)

❶ *No Build Project*

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2029 No Build Projects

Figure 12-14

will address the increase in traffic and pedestrian levels for 13 of the small- to moderate-sized projects in the study area. More than half of the No Build projects in the study area are also part of larger rezoning area projects where previous environmental studies have been completed. Specifically, they are the Crotona Park East/West Farms Rezoning and the Third Avenue/East Tremont Avenue Rezoning projects. Person and vehicle trips from these two projects were determined from the 2011 *Crotona Park East/West Farms Rezoning and Related Actions FEIS* and the 2010 *Third Avenue/East Tremont Avenue Rezoning EAS* and incorporated into the No Action analyses. **Table 12-19** and **Figure 12-14** summarize the projects that were accounted for in this future 2029 baseline, including those that were considered as part of the study area background growth.

In addition, the Development Site parcels were not fully tenanted at the time of the existing transportation collection efforts. Specifically, 100 out of the existing 731 residential units and approximately 3,420 gsf of the existing 39,490 gsf of retail uses were vacant. These vacancies would be re-tenanted in the future without the proposed project. Therefore, the person and vehicle trips from the re-tenanting have been incorporated into the 2029 No Action conditions.

CHANGES TO THE STUDY AREA STREET NETWORK

In addition to the development projects noted above, NYCDOT will be modifying the traffic operations/roadway configuration at three of the intersections in the traffic study area in the No Action condition. These include the intersections of East Tremont Avenue at Boston Road/West Farms Road, East Tremont Avenue at East 177th Street and Devoe Avenue, and East 177th Street at Sheridan Expressway. Based on the current Mass Mailing 1 Plans provided by NYCDOT, the following geometric changes are anticipated at these three intersections.

- East Tremont Avenue at Boston Road/West Farms Road: The East Tremont Avenue eastbound approach, the Boston Road northbound and southbound approaches, and the West Farms Road northbound approaches will remain largely the same as existing conditions. However, the East Tremont Avenue westbound approach will have a number of changes. The existing U-turn at the westbound approach will be eliminated. The westbound approach will also be reconfigured from the existing three shared left-turn/through/right-turn lanes into two shared left-turn/through lanes and one channelized right-turn lane. It is assumed the No Action signal phases and timings would be the same as existing conditions.
- East Tremont Avenue at East 177th Street and Devoe Avenue: Currently, these two intersections operate as separate intersections with their corresponding signal phases and timings. The East Tremont Avenue and East 177th Street intersection currently operates as a T-intersection with an eastbound and westbound approach (East Tremont Avenue) and a northbound approach (East 177th Street). The East Tremont Avenue and Devoe Avenue intersection currently operates as a four-legged intersection with eastbound and westbound approaches (East Tremont Avenue) and northbound and southbound approaches (Devoe Avenue). These two intersections will be reconfigured into one four-legged intersection in the future No Action conditions. The East Tremont Avenue eastbound approach will be striped with two shared left-turn/through lanes and a channelized right-turn lane. The East Tremont Avenue westbound approach will be striped with one exclusive left-turn lane and one shared left-turn/through/right-turn lane. The northbound approach will be striped with one exclusive left-turn lane and one shared through/right-turn lane. The southbound approach will be striped with one shared left-turn/through/right-turn lane. The future weekday AM and PM peak hour signal phases and timings were provided by NYCDOT. The future weekday midday peak hour signal phases and timings were assumed the same as those for the future weekday AM peak hour.

Table 12-19
No Build Projects Expected to be Complete by 2029

Map Ref No. [1]	Project Name/Address	Development Program	Transportation Assumptions	Status/ Build Year [2]
1	1932 Bryant Avenue	Mixed residential/commercial: 327 units, 14,500 gsf of retail, and 10,000 gsf of community facility	Transportation assumptions from *CEQR Technical Manual*, *Crotona Park East/West Farms Rezoning and Related Actions FEIS* (2011), 2010-2014 U.S. Census ACS JTW estimates, and 2006-2010 U.S. Census ACS RJTW estimates, and other previously approved studies	2018
2	1825 Boston Road	Mixed residential/commercial: 108 units, 7,156 gsf of retail, and 508 gsf of community facility	Transportation assumptions from *CEQR Technical Manual*, *Crotona Park East/West Farms Rezoning and Related Actions FEIS* (2011), 2008-2012 U.S. Census ACS JTW estimates, and *Webster Avenue Rezoning FEIS* (2011)	2029
3	866 East 178th Street	Residential: 40 units	Included in background growth	2029
4	1907 Southern Boulevard	Residential: 27 units	Included in background growth	2029
5	861-863 Fairmount Place	Residential: 23 units	Included in background growth	2029
6	2131 Mapes Avenue	Mixed residential/community facility: 23 units and 315 gsf of community facility	Included in background growth	2029
7	2097 Daly Avenue	Residential: 10 units	Included in background growth	2029
8	1479 Rosedale Avenue	Residential: 2 units	Included in background growth	2029
9	1829 Amethyst Street	Residential: 2 units	Included in background growth	2029
10	1465-1467 Rosedale Avenue	Residential: 8 units	Included in background growth	2029
11	1621-1623 Melville Street	Residential: 6 units	Included in background growth	2029
12	913 East Tremont Avenue	Mixed residential/commercial: 51 units and 10,630 gsf of commercial	Included in background growth	2029
13	1776 Boston Road	Residential: 65 units	Included in background growth	2029
14	Lebanon West Farms, 1172 East Tremont Avenue	Residential: 105 units	Included in background growth	2029
15	Lebanon West Farms, 1157 East 178th Street	Mixed residential/commercial: 36 units and 2,804 gsf of commercial	Included in background growth	2029
16	1939 West Farms Road	Mixed residential/commercial: 181 units and 23,380 gsf of commercial	Transportation assumptions from *Crotona Park East/West Farms Rezoning and Related Actions FEIS* (2011)	2022
17	1927 West Farms Road	Mixed residential/commercial: 194 units and 17,500 gsf of commercial	See project site 16, above	2022
18	1295 Rodman Place	Residential: 39 units	See project site 16, above	2022
19	1899-1905 West Farms Road	Mixed residential/commercial: 200 units and 10,040 gsf of commercial	See project site 16, above	2022
20	1829 Boone Avenue	Residential: 37 units	See project site 16, above	2022
21	1817 Boone Avenue	Residential: 181 units	See project site 16, above	2022
22	1825 West Farms Road	Residential: 51 units	See project site 16, above	2022
23	1817 West Farms Road	Residential: 57 units	See project site 16, above	2022
24	1783 West Farms Road	Residential: 56 units	See project site 16, above	2022
25	1760 Boone Avenue	Mixed residential/commercial: 62 units and 10,000 gsf of commercial	See project site 16, above	2022
26	1763 West Farms Road	Mixed residential/commercial: 60 units and 12,536 gsf of commercial	See project site 16, above	2022
27	1711 Boone Avenue	Commercial: 5,000 gsf	See project site 16, above	2022
28	1701 Boone Avenue	Residential: 36 units	See project site 16, above	2022
29	1704 Boone Avenue	Residential: 140 units	See project site 16, above	2022

Table 12-19 (cont'd)
No Build Projects Expected to be Complete by 2029

Map Ref No. [1]	Project Name/Address	Development Program	Transportation Assumptions	Status/ Build Year [2]
30	1695 Boone Avenue	Residential: 63 units	See project site 16, above	2022
31	1685 Boone Avenue	Residential: 54 units	See project site 16, above	2022
32	1680 Boone Avenue	Residential: 92 units	See project site 16, above	2022
33	1003 East 173rd Street	Residential: 72 units	See project site 16, above	2022
34	1661 Boone Avenue	Mixed residential/commercial: 27 units and 10,000 gsf of commercial	See project site 16, above	2022
35	1015 East 173rd Street	Residential: 50 units	See project site 16, above	2022
36	870 East Tremont Avenue	Mixed residential/commercial: 21 units and 4,000 gsf of commercial	Transportation assumptions from *Third Avenue/East Tremont Avenue Rezoning EAS* (2010)	2020
37	861 East Tremont Avenue	Mixed residential/commercial: 36 units and 7,125 gsf of commercial	See project site 36, above	2020
38	837 East Tremont Avenue	Commercial: 45,836 gsf	See project site 36, above	2020
39	741 East Tremont Avenue	Mixed residential/commercial: 39 units and 9,124 gsf of commercial	See project site 36, above	2020

Notes:
(1) See **Figure 12-14**.
(2) Projects for which an expected date of completion is not available are assumed to be complete by the proposed project's build year of 2029.
Sources:
New York City Department of Buildings; New York City Department of City Planning; *Crotona Park East/West Farms Rezoning and Related Actions FEIS* (2011); *Third Avenue/East Tremont Avenue Rezoning EAS* (2010).

- East 177th Street at Sheridan Expressway: The Sheridan Expressway On/Off ramp eastbound approach will be restriped from the existing one exclusive left-turn lane and one shared through/right-turn lane to one exclusive left-turn and one shared left-turn/through/right-turn lane. A new west crosswalk and bike path will be added to the eastbound approach. The future weekday AM and PM peak hour signal phases and timings were provided by NYCDOT. The future weekday midday peak hour signal phases and timings were assumed the same as those for the weekday AM and PM peak hours.

Subsequent to the publication of the Draft EIS, ~~Should~~ the above proposed geometric changes ~~and signal phasings and timings~~ were ~~be~~ further refined at the intersection of East Tremont Avenue and Boston Road/West Farms Road and at the intersection of East 177th Street and Sheridan Expressway. ~~between the Draft and Final EIS,~~ T~~t~~he No Action analysis have been~~will be~~ updated to reflect these changes.~~, as appropriate~~.

TRAFFIC OPERATIONS

The 2029 No Action condition traffic volumes are shown in **Figures 12-15 through 12-17** for the weekday AM, midday, and PM peak hours. The 2029 No Action condition traffic volumes were projected by layering on top of the existing traffic volumes the following: background growth, trips generated by the discrete No Build projects in the area, traffic diversions due to NYCDOT's proposed traffic operations/roadway configuration changes, and incremental trips from the re-tenanting of the Development Site parcels. A summary of the 2029 No Action condition traffic analysis results is presented in **Table 12-20**. Details on level-of-service, v/c ratios, and average delays are presented in **Tables 12-21 and 12-22**.

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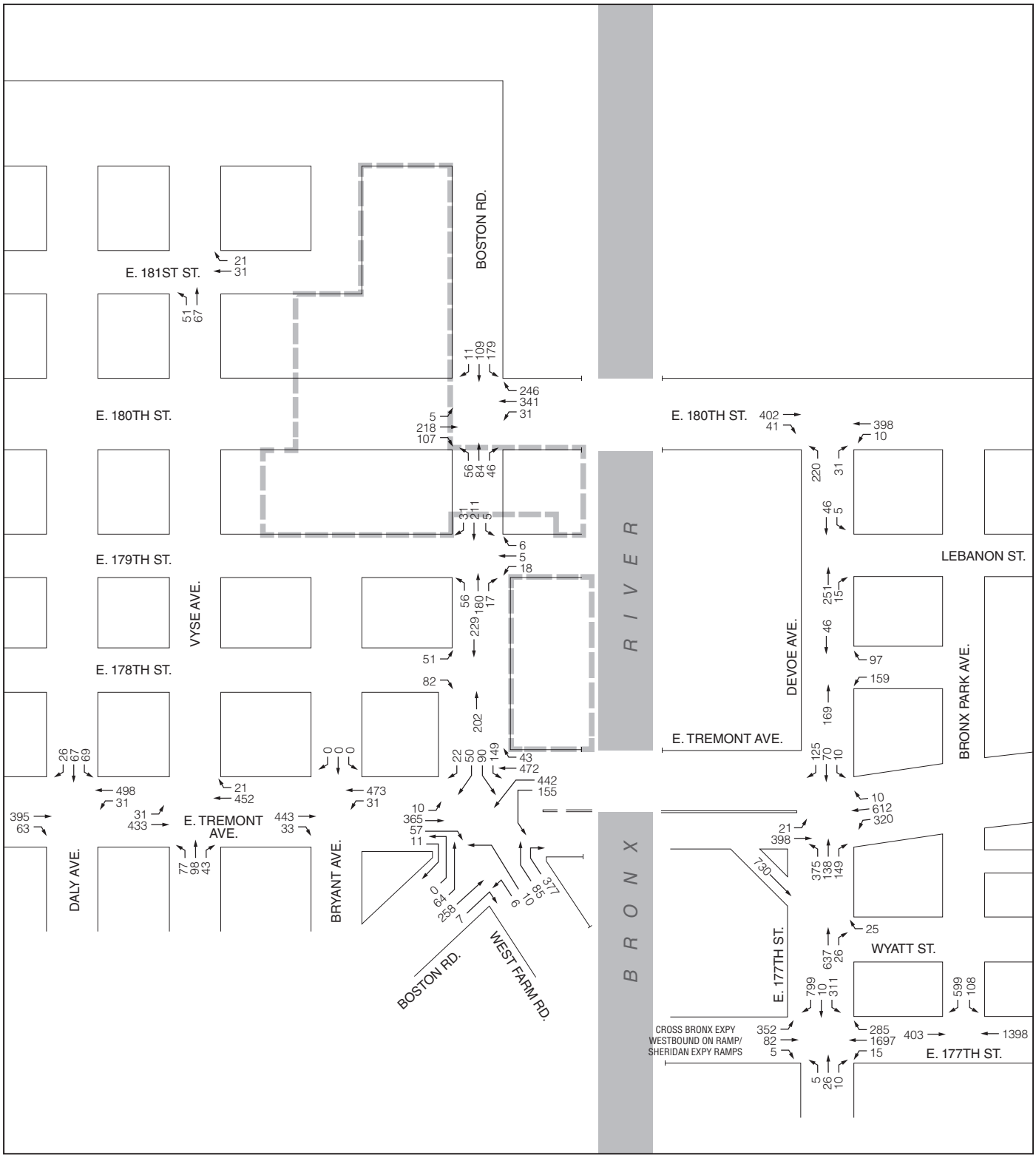

Project Area Boundary

2029 No Action Traffic Volumes
Weekday AM Peak Hour
Figure 12-15

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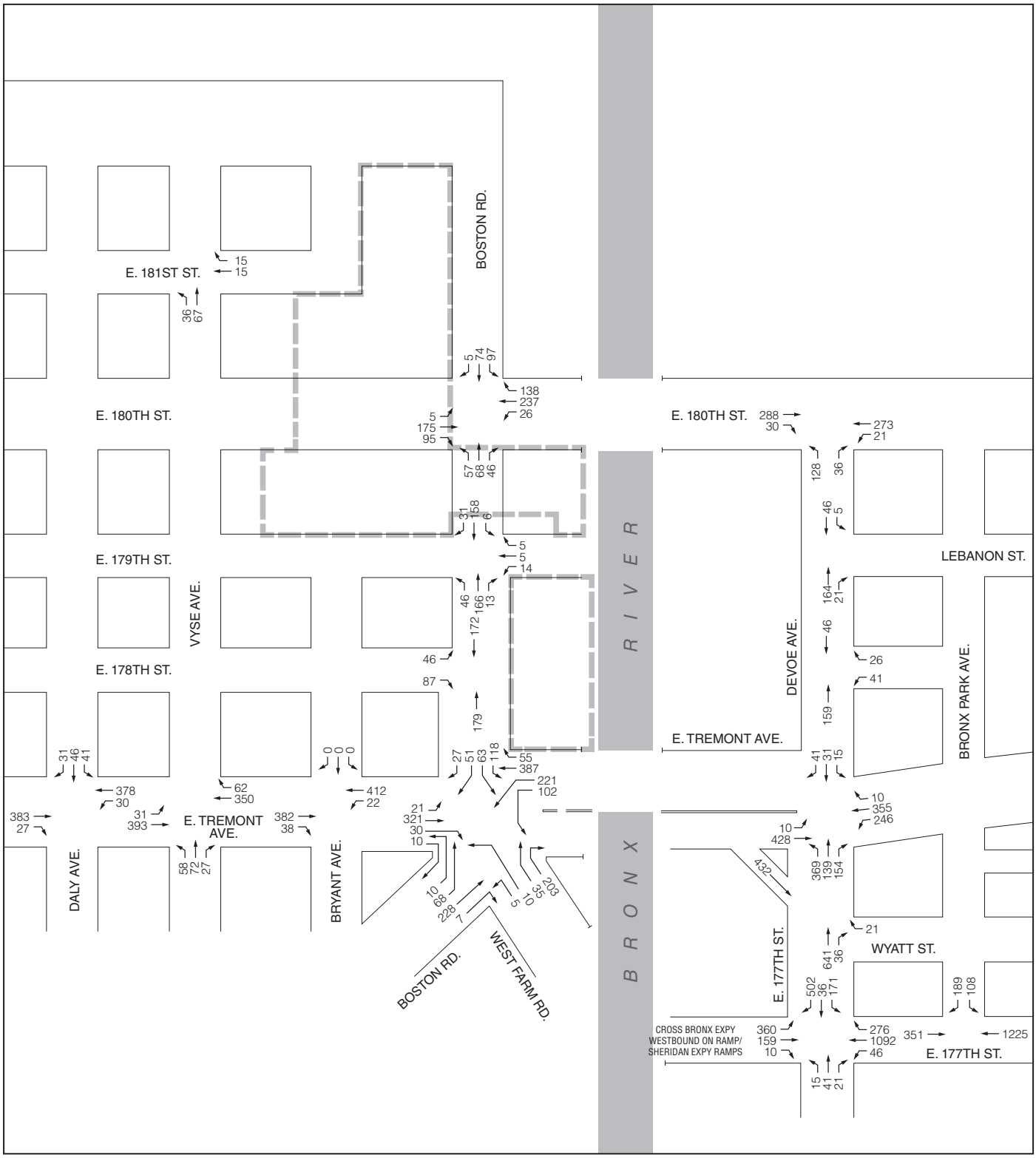
6.22.16



Project Area Boundary

2029 No Action Traffic Volumes
Weekday Midday Peak Hour

Figure 12-16

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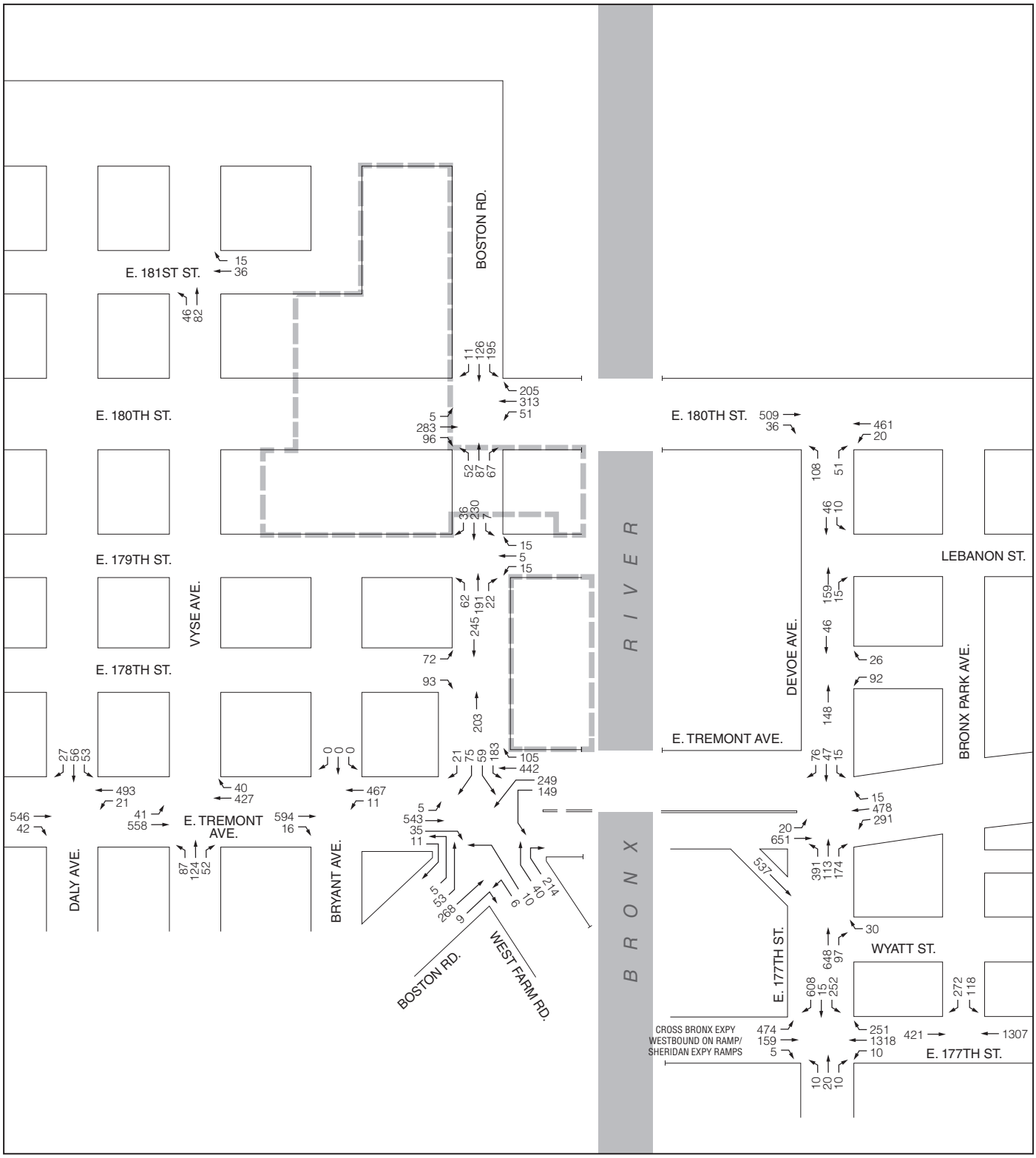


Project Area Boundary

2029 No Action Traffic Volumes
Weekday PM Peak Hour

Figure 12-17

Table 12-20
Summary of 2029 No Action Traffic Analysis Results

Level of Service	Analysis Peak Hours		
	Weekday AM	Weekday Midday	Weekday PM
Signalized Intersections			
Lane Groups at LOS A/B/C	~~22~~23	~~30~~31	23
Lane Groups below mid-LOS D	~~5~~6	4	~~7~~8
Lane Groups above mid-LOS D	3	2	2
Lane Groups at LOS E	4	1	~~4~~5
Lane Groups at LOS F	8	~~6~~5	~~7~~6
Total	~~43~~44	43	~~43~~44
Unsignalized Intersections			
Lane Groups at LOS A/B/C	6	7	7
Lane Groups below mid-LOS D	0	0	0
Lane Groups above mid-LOS D	1	0	0
Lane Groups at LOS E	0	0	0
Lane Groups at LOS F	0	0	0
Total	7	7	7

Notes: LOS = Level-of-Service.

Based on the analysis results presented in **Tables 12-21 and 12-22**, the majority of the approaches/lane-groups will operate at the same LOS as in the existing conditions. The following approaches/lane-groups are expected to operate at deteriorated LOS when compared to the existing conditions:

- Westbound approach at the East 180th Street and Boston Road intersection will deteriorate to LOS F with a delay of 82.0 spv during the weekday PM peak hour;
- Eastbound approach at the East 178th Street and Boston Road intersection will deteriorate within LOS D to a delay of 45.9 spv during the weekday AM peak hour;
- Northbound approach at the East Tremont Avenue and Vyse Avenue intersection will deteriorate within LOS D to a delay of 50.0 spv during the weekday AM peak hour and to LOS E with a delay of 56.6 spv during the weekday PM peak hour;
- Westbound approach at the East Tremont Avenue and Boston Road/West Farms Road intersection will deteriorate to LOS F with a delay of 229.5 spv during the weekday midday peak hour, and to LOS F with a delay of 204.0 spv during the weekday PM peak hour;
- Southbound approach at the East Tremont Avenue and Boston Road/West Farms Road intersection will deteriorate to LOS E with a delay of 56.3 spv during the weekday midday peak hour.
- Southbound through/right-turn at the intersection of East Tremont Avenue and Boston Road/West Farms Road will deteriorate to LOS E with a delay of 59.7 spv during the weekday PM peak hour;
- Northbound left-turn at the East Tremont Avenue and Devoe Avenue/East 177th Street intersection will deteriorate to LOS F with a delay of 132.5 spv during the weekday AM peak hour, to LOS F with a delay of 131.0 spv during the weekday midday peak hour, and to LOS F with a delay of 163.2 spv during the weekday PM peak hour;
- Eastbound through/right-turn at the East 177th Street and Sheridan Expressway intersection will deteriorate to LOS D with a delay of 51.9 spv during the weekday midday peak hour, and to LOS E with a delay of 61.1 spv during the weekday PM peak hour;
- Westbound left-turn/through at the East 177th Street and Sheridan Expressway intersection will deteriorate within LOS D with a delay of 48.8 spv during the weekday midday peak hour;

- Northbound approach at the East 177th Street and Sheridan Expressway intersection will deteriorate to LOS E with a delay of 79.6 spv during the weekday AM peak hour; and
- Southbound right-turn at the East 177th Street and Sheridan Expressway intersection will deteriorate to LOS F with a delay of ~~110.5~~120.0 spv during the weekday AM peak hour.

Table 12-21
2014 Existing and 2029 No Action Conditions Level of Service Analysis
Signalized Intersections

	Weekday AM								Weekday Midday								Weekday PM							
	2014 Existing				2029 No Action				2014 Existing				2029 No Action				2014 Existing				2029 No Action			
Intersection	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
East 180th Street and Boston Road																								
EB	L	0.03	18.1	B	L	0.03	18.1	B	L	0.02	14.1	B	L	0.02	14.1	B	L	0.02	17.9	B	L	0.02	18.0	B
	TR	0.68	32.0	C	TR	0.72	33.8	C	TR	0.46	19.9	B	TR	0.47	20.2	C	TR	0.61	28.6	C	TR	0.64	29.6	C
WB	LTR	0.98	63.5	E	LTR	1.02	72.9	E	LTR	0.68	25.7	C	LTR	0.70	26.8	C	LTR	0.99	66.5	E	LTR	1.05	82.0	F
NB	LTR	0.41	24.3	C	LTR	0.46	25.6	C	LTR	0.37	18.6	B	LTR	0.40	19.1	B	LTR	0.42	24.2	C	LTR	0.46	25.0	C
SB	LTR	0.66	32.4	C	LTR	0.70	34.5	C	LTR	0.39	19.1	B	LTR	0.41	19.5	B	LTR	0.71	35.0	D	LTR	0.78	39.6	D
	Int.		43.9	D	Int.		48.4	D	Int.		21.7	C	Int.		22.4	C	Int.		43.7	D	Int.		50.7	D
East 180th Street and Devoe Avenue																								
EB	TR	0.73	33.1	C	TR	0.75	34.3	C	TR	0.50	20.3	C	TR	0.51	20.6	C	TR	0.79	36.0	D	TR	0.81	37.6	D
WB	LT	0.67	30.4	C	LT	0.69	31.3	C	LT	0.49	20.4	C	LT	0.51	20.7	C	LT	0.67	30.3	C	LT	0.70	31.3	C
NB	LR	0.42	23.7	C	LR	0.43	23.9	C	LR	0.27	16.7	B	LR	0.28	16.8	B	LR	0.26	20.9	C	LR	0.27	21.0	C
	Int.		29.8	C	Int.		30.7	C	Int.		19.6	B	Int.		19.8	B	Int.		31.5	C	Int.		32.6	C
East 178th Street and Boston Road																								
EB	LR	0.52	44.8	D	LR	0.55	45.9	D	LR	0.35	24.2	C	LR	0.38	24.7	C	LR	0.61	47.7	D	LR	0.66	50.4	D
NB	T	0.21	8.7	A	T	0.25	9.0	A	T	0.19	10.9	B	T	0.21	11.0	B	T	0.18	8.3	A	T	0.20	8.5	A
SB	T	0.21	8.5	A	T	0.22	8.6	A	T	0.18	10.8	B	T	0.20	11.0	B	T	0.22	8.7	A	T	0.26	9.0	A
	Int.		17.6	B	Int.		17.5	B	Int.		15.0	B	Int.		15.1	B	Int.		20.4	C	Int.		20.6	C
East Tremont Avenue and Daly Avenue																								
EB	TR	0.43	11.0	B	TR	0.46	11.5	B	TR	0.37	10.8	B	TR	0.47	12.1	B	TR	0.43	11.0	B	TR	0.56	13.1	B
WB	LT	0.49	12.0	B	LT	0.58	13.6	B	LT	0.43	11.7	B	LT	0.49	12.4	B	LT	0.44	11.0	B	LT	0.47	11.5	B
SB	LTR	0.48	41.7	D	LTR	0.50	42.3	D	LTR	0.31	26.1	C	LTR	0.32	26.2	C	LTR	0.39	39.5	D	LTR	0.41	39.9	D
	Int.		16.4	B	Int.		17.2	B	Int.		13.6	B	Int.		14.2	B	Int.		14.9	B	Int.		15.8	B
East Tremont Avenue and Vyse Avenue																								
EB	LT	0.47	11.6	B	LT	0.50	12.1	B	LT	0.39	11.0	B	LT	0.48	12.3	B	LT	0.47	11.6	B	LT	0.60	13.9	B
WB	TR	0.42	10.8	B	TR	0.49	11.9	B	TR	0.43	11.6	B	TR	0.48	12.3	B	TR	0.40	10.6	B	TR	0.43	11.0	B
NB	LTR	0.59	45.0	D	LTR	0.65	47.3	D	LTR	0.39	27.3	C	LTR	0.41	27.7	C	LTR	0.75	53.5	D	LTR	0.79	56.6	E
	Int.		18.0	B	Int.		19.0	B	Int.		14.4	B	Int.		15.0	B	Int.		21.1	C	Int.		22.1	C
East Tremont Avenue and Bryant Avenue																								
EB	TR	0.45	11.3	B	TR	0.48	11.8	B	TR	0.39	12.5	B	TR	0.49	14.0	B	TR	0.42	10.9	B	TR	0.54	12.8	B
WB	LT	0.46	11.5	B	LT	0.54	12.9	B	LT	0.47	13.8	B	LT	0.53	14.8	B	LT	0.43	10.9	B	LT	0.46	11.4	B
	Int.		11.4	B	Int.		12.3	B	Int.		13.2	B	Int.		14.4	B	Int.		10.9	B	Int.		12.2	B
East Tremont Avenue and Boston Road/West Farms Road																								
EB	LTR	0.64	46.2	D	LTR	0.74	48.6	D	LTR	0.48	33.5	C	LTR	0.63	36.7	D	LTR	0.62	45.7	D	LTR	0.83	54.9	D
WB	LTR	1.05	85.7	F	LTR	1.77	395.5	F	LTR	0.80	40.3	D	LTR	1.41	229.5	F	LTR	0.74	46.1	D	LTR	1.33	204.0	F
		~~1.050~~	~~121.94~~			~~2.760~~	~~856.94~~			~~1.050~~	~~117.13~~			~~1.510~~	~~293.33~~			~~1.050~~	~~121.24~~			~~1.370~~	~~240.14~~	
NB (West Farms Road)	~~LTR~~	~~30~~	~~3.5~~	~~FD~~	~~LTR~~	~~36~~	~~4.8~~	~~FD~~	~~LTR~~	~~21~~	~~4.4~~	~~FC~~	~~LTR~~	~~23~~	~~4.7~~	~~FC~~	~~LTR~~	~~18~~	~~1.1~~	~~FD~~	~~LTR~~	~~20~~	~~1.4~~	~~FD~~
	R	1.04	134.9	F	R	3.03	981.8	F	R	1.05	125.3	F	R	1.59	333.0	F	R	1.03	123.8	F	R	1.38	253.7	F
NB (Boston Road)	LTR	1.02	107.3	F	LTR	1.25	187.9	F	LTR	0.99	84.5	F	LTR	1.12	123.7	F	LTR	1.04	109.5	F	LTR	1.16	151.3	F
						~~1.651~~	~~384.73~~															~~1.311~~	~~227.72~~	
SB	~~Defl.~~	~~1.05~~	~~141.6~~	~~F~~	DefL	48	07.9	F	~~Defl.~~	~~1.05~~	~~136.1~~	~~F~~	~~Defl.~~	~~1.52~~	~~326.1~~	~~F~~	DefL	1.05	133.6	F	DefL	26	06.0	F
	LTR	0.96	89.8	F	-	-	-	-	LTR	0.75	49.3	D	LTR	0.83	56.3	E	-	-	-	-	-	-	-	-
	~~TR~~	~~0.67~~	~~59.2~~	~~E~~	TR	0.68	59.7	E	~~TR~~	~~0.50~~	~~40.7~~	~~D~~	~~TR~~	~~0.55~~	~~42.2~~	~~D~~	TR	0.56	53.8	D	TR	0.67	59.7	E
			~~85.983~~				~~373.03~~				~~61.455~~				~~175.71~~				~~70.769~~			~~157.61~~	
	Int.		0	F	Int.		55.7	F	Int.		0	E	Int.		58.2	F	Int.		0	E	Int.		52.7	F
East Tremont Avenue and East 177th Street [1]																								
EB	T	0.19	19.5	B					T	0.18	15.3	B					T	0.24	17.2	B				
WB	L	0.98	74.5	E					L	0.84	42.5	D					L	0.97	71.8	E				
	LT	0.57	25.5	C					LT	0.26	16.1	B					LT	0.44	20.2	B				
NB	LR	0.27	20.5	C					LR	0.23	15.8	B					LR	0.21	22.6	C				
	Int.		31.8	C					Int.		21.2	C					Int.		28.7	C				
East Tremont Avenue and Devoe Avenue/East 177th Street																								
EB	LT	0.27	20.4	C	LT	0.46	28.5	C	LT	0.21	11.8	B	LT	0.47	28.7	C	LT	0.31	21.0	C	LT	0.60	31.2	C
WB	-	-	-	-	L	0.75	27.3	C	-	-	-	-	L	0.61	21.6	C	-	-	-	-	L	0.86	38.8	D
	-	-	-	-	LTR	0.93	43.0	D	-	-	-	-	LTR	0.53	19.0	B	-	-	-	-	LTR	0.85	34.5	C
	TR	0.68	28.2	C	-	-	-	-	TR	0.38	13.5	B	-	-	-	-	TR	0.60	26.1	C	-	-	-	-
NB	-	-	-	-	L	1.15	132.5	F	-	-	-	-	L	1.14	131.0	F	-	-	-	-	L	1.23	163.2	F
	LTR	0.47	24.9	C	-	-	-	-	LTR	0.61	28.3	C	-	-	-	-	LTR	0.52	25.9	C	-	-	-	-
	-	-	-	-	TR	0.59	36.1	D	-	-	-	-	TR	0.63	37.4	D	-	-	-	-	TR	0.65	38.5	D
SB	LR	0.31	21.6	C	-	-	-	-	LR	0.19	20.3	C	-	-	-	-	LR	0.22	20.2	C	-	-	-	-
	-	-	-	-	LT	0.16	26.8	C	-	-	-	-	LT	0.10	26.0	C	-	-	-	-	LT	0.13	26.3	C
	-	-	-	-	R	0.32	29.8	C	-	-	-	-	R	0.11	26.2	C	-	-	-	-	R	0.19	27.3	C
	Int.		25.1	C	Int.		50.4	D	Int.		16.7	B	Int.		47.8	D	Int.		24.1	C	Int.		57.3	E

Table 12-21 (cont'd)
2014 Existing and 2029 No Action Conditions Level of Service Analysis
Signalized Intersections

Intersection	Weekday AM								Weekday Midday								Weekday PM							
	2014 Existing				2029 No Action				2014 Existing				2029 No Action				2014 Existing				2029 No Action			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
East 177th Street and Sheridan Expressway																								
EB	L	1.05	108.9	F	L	0.36	35.5	D	L	1.02	99.5	F	L	0.42	38.4	D	L	1.05	102.8	F	L	0.53	41.7	D
	TR	0.07	5.5	A	LTR	0.58	42.5	D	TR	0.14	5.9	A	LTR	0.78	51.9	D	TR	0.12	5.8	A	LTR	0.87	61.1	E
WB	LT	1.05	67.3	E	LT	1.04	66.2	E	LT	0.92	43.8	D	LT	0.94	48.8	D	LT	1.05	76.1	E	LT	1.01	63.9	E
	R	0.40	22.2	C	R	0.44	24.8	C	R	0.43	25.1	C	R	0.52	30.5	C	R	0.34	25.9	C	R	0.44	28.5	C
		~~0.34~~0.	~~52.853~~							~~0.88~~0	~~108.59~~			~~0.58~~0	~~58.055~~			~~0.51~~,3	~~63.352~~			~~0.24~~0	~~43.541~~	
NB	LTR	35	.0	D	LTR	0.62	79.6	E	LTR	82	6.7	F	LTR	54	.9	E	LTR	2	.8	ED	LTR	16	.7	D
		~~1.051~~	~~131.61~~			~~1.902~~	~~476.85~~			~~1.051~~	~~135.51~~			~~1.100~~	~~141.21~~				~~124.81~~			~~0.930~~	~~83.778~~	
SB	LT	04	30.8	F	LT	04	40.7	F	LT	04	31.4	F	LT	97	01.8	F	LT	1.05	23.3	F	LT	90	.5	~~FE~~
		~~0.610~~	~~29.229~~			~~1.141~~	~~110.51~~																	
	R	62	.6	C	R	16	20.0	F	R	0.41	22.7	C	R	0.57	23.5	C	R	0.45	21.0	C	R	0.64	25.2	C
		~~62.262~~					~~106.51~~				~~51.350~~				~~49.146~~				~~66.165~~				~~53.052~~	
	Int.	.1	E	Int.			15.2	F	Int.		.5	D	Int.		.2	D	Int.		.9	E	Int.		.6	D
East 177th Street and Bronx Park Avenue																								
										~~0.160~~				~~0.180~~					~~11.911~~					
EB	T	0.12	11.4	B	T	0.20	12.0	B	T	15	11.6	B	T	17	11.8	B	T	0.18	.8	B	T	0.20	12.0	B
WB	T	0.54	16.0	B	T	0.56	16.3	B	T	0.66	18.8	B	T	0.69	19.5	B	T	0.64	18.3	B	T	0.69	19.4	B
SB	LR	0.17	28.8	C	LR	0.18	28.9	C	LR	0.20	29.2	C	LR	0.20	29.3	C	LR	0.18	28.9	C	LR	0.18	29.0	C
	R	1.05	91.9	F	R	1.08	100.0	F	R	0.39	32.5	C	R	0.40	32.7	C	R	0.46	34.1	C	R	0.47	34.4	C
											~~19.819~~				~~20.220~~									
	Int.		35.3	D	Int.		36.1	D	Int.		.9	B	Int.		.3	C	Int.		19.7	B	Int.		20.3	C

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn, LOS = Level of Service, EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound, Int. = Intersection
(1) In the No Action condition, the two intersections of East Tremont Avenue at East 177th Street and Devoe Avenue will be reconfigured into one intersection.

Table 12-22
2014 Existing and 2029 No Action Conditions Level of Service Analysis
Unsignalized Intersections

Intersection	Weekday AM								Weekday Midday								Weekday PM							
	2014 Existing				2029 No Action				2014 Existing				2029 No Action				2014 Existing				2029 No Action			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
East 181st Street and Vyse Avenue																								
NB	LT	0.19	10.8	B	LT	0.19	10.9	B	LT	0.15	10.2	B	LT	0.15	10.3	B	LT	0.18	10.7	B	LT	0.19	10.8	B
Lebanon Street and Devoe Avenue																								
SB	LT	0.01	8.3	A	LT	0.01	8.3	A	LT	0.00	7.8	A	LT	0.00	7.9	A	LT	0.01	7.7	A	LT	0.01	7.8	A
East 179th Street and Boston Road																								
WB	LTR	0.14	33.5	D	LTR	0.21	34.9	D	LTR	0.05	13.2	B	LTR	0.07	13.7	B	LTR	0.10	17.4	C	LTR	0.13	19.4	C
NB	LTR	0.13	13.7	B	LTR	0.13	14.1	B	LTR	0.04	8.3	A	LTR	0.05	8.4	A	LTR	0.08	9.5	A	LTR	0.09	9.7	A
SB	LTR	0.01	9.6	A	LTR	0.01	9.8	A	LTR	0.00	7.9	A	LTR	0.00	8.0	A	LTR	0.01	8.6	A	LTR	0.01	8.7	A
East 179th Street and Devoe Avenue																								
WB	LR	0.37	12.4	B	LR	0.38	12.6	B	LR	0.10	10.0	B	LR	0.11	10.1	B	LR	0.18	10.7	B	LR	0.18	10.7	B
Wyatt Street and Devoe Avenue																								
WB	R	0.05	11.3	B	R	0.06	12.0	B	R	0.04	11.5	B	R	0.05	12.2	B	R	0.08	13.0	B	R	0.09	14.1	B

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn, LOS = Level of Service, EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound, Int. = Intersection.

THE FUTURE WITH THE PROPOSED PROJECT

In the future with the proposed project, the Development Site parcels would be redeveloped with approximately 1,665 residential units, 61,100 gsf of retail, and a new 500 seat public elementary school. This would result in increments of 934 residential units, 21,610 gsf of retail, and a new 500 seat public elementary school over the No Action conditions. Overall, the proposed project would result in approximately 259, 100, and 284 incremental vehicle trips during the weekday AM, midday, and PM peak hours, respectively. The incremental auto trips were conservatively assigned to the newly created on-street and Parcel 10 parking spaces. Taxi trips were assigned to the various block faces of the development parcels along Boston Road, Bryant Avenue, East Tremont Avenue, East 179th Street, East 180th Street, and East 181st Street. All delivery trips were assigned to the development parcels via NYCDOT designated truck routes. The incremental vehicle trips are shown in **Figures 12-3 through 12-5**.

The proposed project would also relocate an existing approximately 2,250 gsf early education facility (30 students and 6 staff) on Parcel 3 to Parcel 1 in the future with the proposed project. The early education facility is estimated to generate minimal vehicle trips (up to 6 vehicle trips during peak hours). Therefore, the early education facility related vehicle trips were not reassigned and would be maintained in the background traffic levels in the With Action condition.

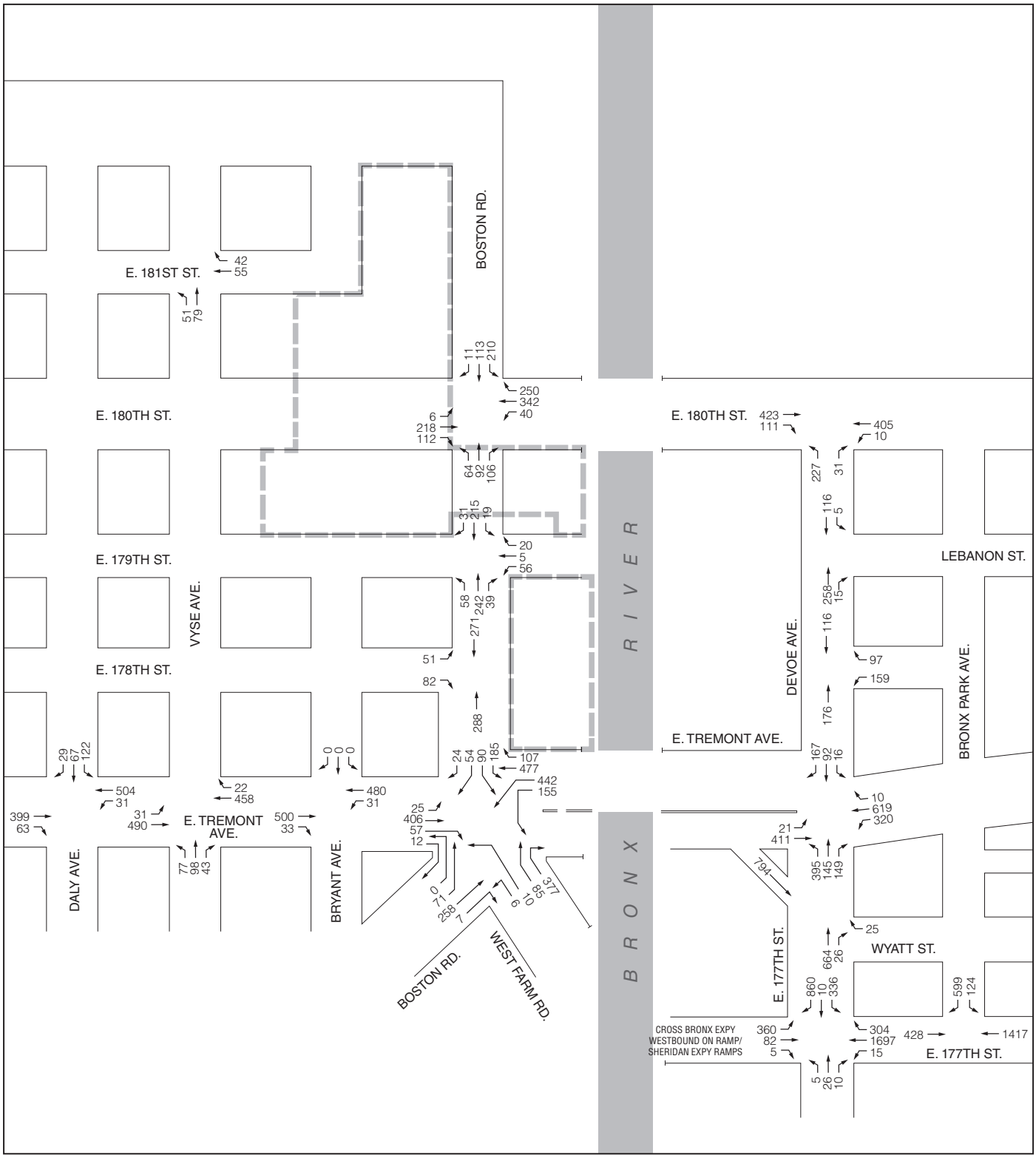
TRAFFIC OPERATIONS

The proposed project would reintroduce the street grid in areas where streets had been previously demapped, including segments on Bryant Avenue between East 181st Street and East 180th Street, Bryant Avenue between East 180th Street and East 179th Street, and East 181st Street between Boston Road and Bryant Avenue. The new street segments are anticipated to maintain the same direction of travel as their existing adjacent street segments. Specifically:

- The Bryant Avenue segment between East 181st Street and East 180th Street would operate one-way southbound. It is anticipated that at its intersection with East 180th Street, the Bryant Avenue approach would be stop-controlled and traffic would only be permitted to make a right-turn onto East 180th Street.
- The Bryant Avenue segment between East 180th Street and East 179th Street would also operate one-way southbound. It is anticipated that at its intersection with East 179th Street, the Bryant Avenue approach would be stop-controlled and traffic would only be permitted to make a right-turn onto East 179th Street.
- The East 181st Street segment between Boston Road and Bryant Avenue would operate one-way westbound. It is anticipated that at its intersection with Bryant Avenue, the East 181st Street approach would be stop-controlled and traffic would be permitted to make a left-turn onto the new Bryant Avenue segment or a through movement continuing on East 181st Street.

Approximately 60 on-street parking spaces would be created on these new private streets and would be governed by special signage and be made available to Lambert Houses residents only via parking permits. In addition, the applicant will work with NYCDOT to design private streets that would be consistent with NYCDOT's design standards and ensure that the proper street management will be in place for these new private streets.

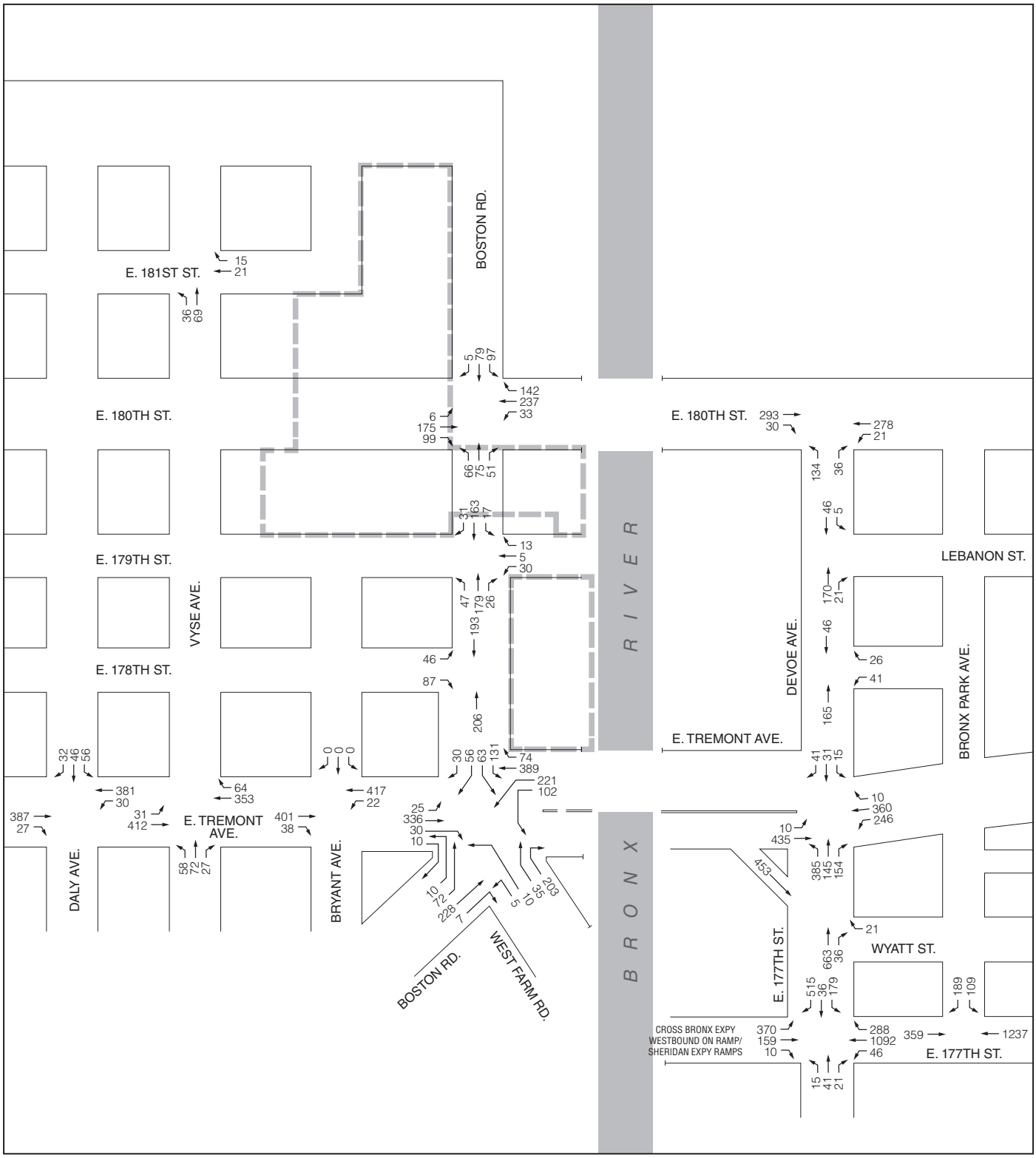
The 2029 With Action condition traffic volumes are shown in **Figures 12-18 through 12-20** for the weekday AM, midday, and PM peak hours. The 2029 With Action traffic volumes were constructed by layering on top of the No Action condition traffic volumes the incremental vehicle trips shown in **Figures 12-3 through 12-5**. A summary of the 2029 With Action condition traffic analysis results is presented in **Table 12-23**.



Development Site

2029 With Action Traffic Volumes
Weekday AM Peak Hour

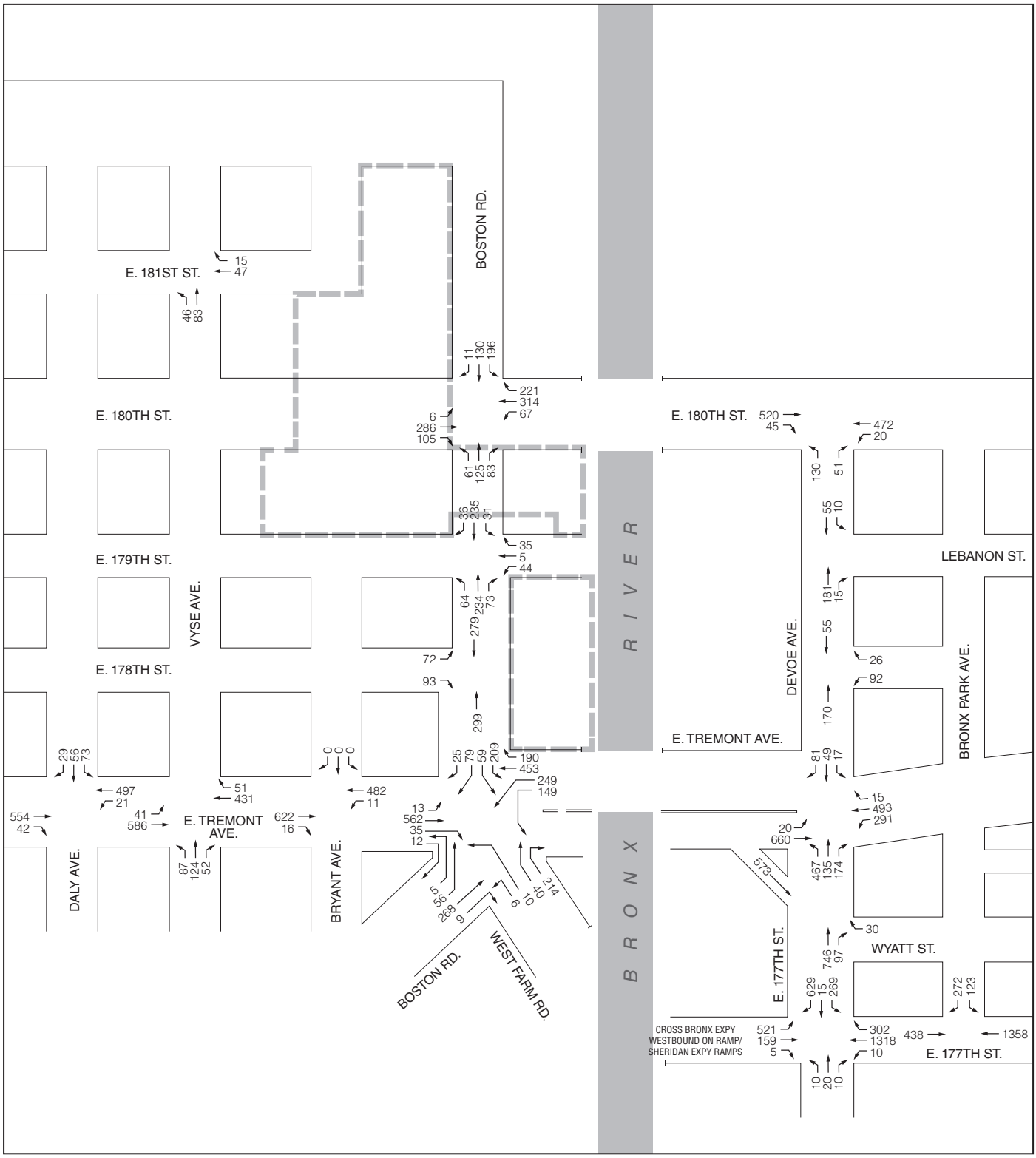
Figure 12-18



Project Area Boundary

2029 With Action Traffic Volumes
Weekday Midday Peak Hour

Figure 12-19



2029 With Action Traffic Volumes
Weekday PM Peak Hour

Figure 12-20

Table 12-23
Summary of 2029 With Action Traffic Analysis Results

Level of Service	Analysis Peak Hours		
	Weekday AM	Weekday Midday	Weekday PM
Signalized Intersections			
Lane Groups at LOS A/B/C	19	30	22
Lane Groups below mid-LOS D	5	4	~~7~~8
Lane Groups above mid-LOS D	~~5~~6	2	0
Lane Groups at LOS E	5	~~1~~2	6
Lane Groups at LOS F	9	~~6~~5	8
Total	~~43~~44	43	~~43~~44
Number of intersections with significant impacts	7	3	5
Unsignalized Intersections			
Lane Groups at LOS A/B/C	6	7	6
Lane Groups below mid-LOS D	0	0	1
Lane Groups above mid-LOS D	0	0	0
Lane Groups at LOS E	0	0	0
Lane Groups at LOS F	1	0	0
Total	7	7	7
Number of intersections with significant impacts	0	0	0

Notes: LOS = Level-of-Service.

SIGNIFICANT ADVERSE IMPACTS

Details on level-of-service, volume-to-capacity (v/c) ratios, and average delays are presented in **Tables 12-24 and 12-25**. As discussed below, significant adverse traffic impacts were identified at 14 approaches/lane groups (of 7 different intersections). Potential measures that can be implemented to mitigate these significant adverse traffic impacts are discussed in Chapter 21, "Mitigation."

Table 12-24
2029 No Action and 2029 With Action Conditions Level of Service Analysis
Signalized Intersections

	Weekday AM								Weekday Midday								Weekday PM							
	2029 No Action				2029 With Action				2029 No Action				2029 With Action				2029 No Action				2029 With Action			
Intersection	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
East 180th Street and Boston Road																								
EB	L	0.03	18.1	B	L	0.04	18.3	B	L	0.02	14.1	B	L	0.02	14.2	B	L	0.02	18.0	B	L	0.03	18.2	B
	TR	0.72	33.8	C	TR	0.77	37.3	D	TR	0.47	20.2	C	TR	0.50	20.8	C	TR	0.64	29.6	C	TR	0.69	32.2	C
WB	LTR	1.02	72.9	E	LTR	1.13	111.2	F +	LTR	0.70	26.8	C	LTR	0.75	29.4	C	LTR	1.05	82.0	F	LTR	1.33	196.6	F +
NB	LTR	0.46	25.6	C	LTR	0.72	36.0	D	LTR	0.40	19.1	B	LTR	0.49	21.2	C	LTR	0.46	25.0	C	LTR	0.63	30.5	C
SB	LTR	0.70	34.5	C	LTR	0.92	60.4	E +	LTR	0.41	19.5	B	LTR	0.44	20.1	C	LTR	0.78	39.6	D	LTR	0.90	55.2	E +
	Intersection		48.4	D	Intersection		69.4	E	Intersection		22.4	C	Intersection		24.0	C	Intersection		50.7	D	Intersection		96.9	F
East 180th Street and Devoe Avenue																								
EB	TR	0.75	34.3	C	TR	0.92	50.8	D +	TR	0.51	20.6	C	TR	0.52	20.8	C	TR	0.81	37.6	D	TR	0.84	40.1	D
WB	LT	0.69	31.3	C	LT	0.71	31.9	C	LT	0.51	20.7	C	LT	0.52	20.9	C	LT	0.70	31.3	C	LT	0.71	32.0	C
NB	LR	0.43	23.9	C	LR	0.45	24.1	C	LR	0.28	16.8	B	LR	0.29	17.0	B	LR	0.27	21.0	C	LR	0.31	21.5	C
	Intersection		30.7	C	Intersection		38.1	D	Intersection		19.8	B	Intersection		20.0	B	Intersection		32.6	C	Intersection		33.9	C
East 178th Street and Boston Road																								
EB	LR	0.55	45.9	D	LR	0.68	55.9	E +	LR	0.38	24.7	C	LR	0.38	24.8	C	LR	0.66	50.4	D	LR	0.90	82.3	F +
NB	T	0.25	9.0	A	T	0.35	10.2	B	T	0.21	11.0	B	T	0.24	11.3	B	T	0.20	8.5	A	T	0.29	9.4	A
SB	T	0.22	8.6	A	T	0.26	9.0	A	T	0.20	11.0	B	T	0.23	11.2	B	T	0.26	9.0	A	T	0.30	9.4	A
	Intersection		17.5	B	Intersection		18.4	B	Intersection		15.1	B	Intersection		15.0	B	Intersection		20.6	C	Intersection		26.5	C
East Tremont Avenue and Daly Avenue																								
EB	TR	0.46	11.5	B	TR	0.46	11.5	B	TR	0.47	12.1	B	TR	0.47	12.2	B	TR	0.56	13.1	B	TR	0.56	13.2	B
WB	LT	0.58	13.6	B	LT	0.59	13.8	B	LT	0.49	12.4	B	LT	0.49	12.5	B	LT	0.47	11.5	B	LT	0.47	11.6	B
SB	LTR	0.50	42.3	D	LTR	0.67	48.7	D +	LTR	0.32	26.2	C	LTR	0.36	27.0	C	LTR	0.41	39.9	D	LTR	0.47	41.6	D
	Intersection		17.2	B	Intersection		19.7	B	Intersection		14.2	B	Intersection		14.6	B	Intersection		15.8	B	Intersection		16.5	B
East Tremont Avenue and Vyse Avenue																								
EB	LT	0.50	12.1	B	LT	0.56	13.2	B	LT	0.48	12.3	B	LT	0.50	12.6	B	LT	0.60	13.9	B	LT	0.62	14.5	B
WB	TR	0.49	11.9	B	TR	0.50	12.1	B	TR	0.48	12.3	B	TR	0.48	12.4	B	TR	0.43	11.0	B	TR	0.45	11.2	B
NB	LTR	0.65	47.3	D	LTR	0.65	47.3	D	LTR	0.41	27.7	C	LTR	0.41	27.7	C	LTR	0.79	56.6	E	LTR	0.79	56.6	E
	Intersection		19.0	B	Intersection		19.1	B	Intersection		15.0	B	Intersection		15.1	B	Intersection		22.1	C	Intersection		22.1	C

Table 12-24 (cont'd)
2029 No Action and 2029 With Action Conditions Level of Service Analysis
Signalized Intersections

Intersection	Weekday AM								Weekday Midday								Weekday PM							
	2029 No Action				2029 With Action				2029 No Action				2029 With Action				2029 No Action				2029 With Action			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
East Tremont Avenue and Bryant Avenue																								
EB	TR	0.48	11.8	B	TR	0.54	12.8	B	TR	0.49	14.0	B	TR	0.51	14.3	B	TR	0.54	12.8	B	TR	0.57	13.3	B
WB	LT	0.54	12.9	B	LT	0.55	13.0	B	LT	0.53	14.8	B	LT	0.54	15.0	B	LT	0.46	11.4	B	LT	0.47	11.6	B
	Intersection		12.3	B	Intersection		12.9	B	Intersection		14.4	B	Intersection		14.6	B	Intersection		12.2	B	Intersection		12.5	B
East Tremont Avenue and Boston Road/West Farms Road																								
EB	LTR	0.71	48.6	D	LTR	0.80	53.0	D	LTR	0.63	36.7	D	LTR	0.66	37.5	D	LTR	0.83	54.9	D	LTR	0.88	58.6	E
WB	LTR	1.77	395.5	F	LTR	1.96	483.2	F +	LTR	1.41	229.5	F	LTR	1.47	253.8	F +	LTR	1.33	204.0	F	LTR	1.60	320.3	F +
		2.760	856.9			2.760	856.9			1.510	293.3			1.550	312.6			1.370	240.1			1.480	289.5	
NB (West Farms Road)	LTR	36	44.8	FD	LTR	36	44.8	FD	LTR	23	34.7	FC	LTR	23	34.7	FC +	LTR	20	41.4	FD	LTR	20	41.4	FD +
	R	3.03	981.8	F	R	3.03	981.8	F	R	1.59	333.0	F	R	1.65	360.1	F +	R	1.38	253.7	F	R	1.53	319.0	F +
NB (Boston Road)	LTR	1.25	187.9	F	LTR	1.28	199.0	F +	LTR	1.12	123.7	F	LTR	1.13	128.3	F +	LTR	1.16	151.3	F	LTR	1.17	154.8	F +
		1.651	384.7			2.051	557.9											1.311	227.7			1.531	320.4	
SB	DefL	48	307.9	F	DefL	83	459.9	F +	DefL	1.52	326.1	F	DefL	1.69	393.7	F +	DefL	26	206.0	F	DefL	55	330.2	F +
	:	:	:	:	:	:	:	:	LTR	0.83	56.3	E	LTR	0.92	68.5	E +	:	:	:	:	:	:	:	:
	TR	0.68	59.7	E	TR	0.70	61.7	E	TR	0.55	42.2	D	TR	0.58	43.4	D	TR	0.67	59.7	E	TR	0.71	62.7	E
			373.0				415.7				175.7				192.4				157.6				218.2	
	Intersection		355.7	F	Intersection		397.3	F	Intersection		158.2	F	Intersection		172.2	F	Intersection		152.7	F	Intersection		216.1	F
East Tremont Avenue and Devoe Avenue/East 177th Street																								
EB	LT	0.46	28.5	C	LT	0.47	28.8	C	LT	0.47	28.7	C	LT	0.48	28.8	D	LT	0.60	31.2	C	LT	0.61	31.4	C
WB	L	0.75	27.3	C	L	0.76	28.1	C	L	0.61	21.6	C	L	0.61	21.8	C	L	0.86	38.8	D	L	0.86	39.8	D
	LTR	0.93	43.0	D	LTR	0.94	46.2	D	LTR	0.53	19.0	B	LTR	0.54	19.3	B	LTR	0.85	34.5	C	LTR	0.88	37.8	D
NB	L	1.15	132.5	F	L	1.27	179.1	F +	L	1.14	131.0	F	L	1.20	150.6	F +	L	1.23	163.2	F	L	1.47	266.1	F +
	TR	0.59	36.1	D	TR	0.60	36.5	D	TR	0.63	37.4	D	TR	0.64	37.8	D	TR	0.65	38.5	D	TR	0.69	40.2	D
SB	LT	0.16	26.8	C	LT	0.22	27.7	C	LT	0.10	26.0	C	LT	0.10	26.0	C	LT	0.13	26.3	C	LT	0.14	26.5	C
	R	0.32	29.8	C	R	0.43	32.1	C	R	0.11	26.2	C	R	0.11	26.2	C	R	0.19	27.3	C	R	0.20	27.5	C
	Intersection		50.4	D	Intersection		59.2	E	Intersection		47.8	D	Intersection		52.5	D	Intersection		57.3	E	Intersection		82.2	F
East 177th Street and Sheridan Expressway																								
EB	L	0.36	35.5	D	L	0.36	35.6	D	L	0.42	38.4	D	L	0.43	38.6	D	L	0.53	41.7	D	L	0.58	43.3	D
	LTR	0.58	42.5	D	LTR	0.58	42.7	D	LTR	0.78	51.9	D	LTR	0.79	52.9	D	LTR	0.87	61.1	E	LTR	0.92	68.2	E +
WB	LT	1.04	66.2	E	LT	1.04	66.2	E	LT	0.94	48.8	D	LT	0.94	48.8	D	LT	1.01	63.9	E	LT	1.01	63.9	E
	R	0.44	24.8	C	R	0.47	25.4	C	R	0.52	30.5	C	R	0.54	31.1	C	R	0.44	28.5	C	R	0.53	30.7	C
										0.580	58.95			0.600	59.35			0.240	43.54			0.260	44.04	
NB	LTR	0.62	79.6	E	LTR	0.62	79.6	E	LTR	54	5.9	E	LTR	56	7.3	E	LTR	16	1.7	D	LTR	17	2.0	D
		1.902	476.8			2.062	549.0			1.100	141.2			1.151	159.1			0.930	83.77			0.990	96.68	
SB	LT	04	540.7	F	LT	20	611.4	F +	LT	97	101.8	F	LT	02	113.8	F +	LT	90	8.5	FE	LT	96	9.7	F +
		1.141	110.5			1.221	145.3																	
	R	16	120.0	F	R	25	156.6	F +	R	0.57	23.5	C	R	0.58	23.8	C	R	0.64	25.2	C	R	0.66	25.9	C
			106.5				123.5				49.14				50.84				53.05				55.05	
	Intersection		115.2	F	Intersection		133.0	F	Intersection		6.2	D	Intersection		7.4	D	Intersection		2.6	D	Intersection		4.5	ED
East 177th Street and Bronx Park Avenue																								
										0.180												0.210	12.11	
EB	T	0.20	12.0	B	T	0.21	12.1	B	T	17	11.8	B	T	0.18	11.8	B	T	0.20	12.0	B	T	20	2.0	B
WB	T	0.56	16.3	B	T	0.57	16.5	B	T	0.69	19.5	B	T	0.70	19.7	B	T	0.69	19.4	B	T	0.71	20.1	C
SB	LR	0.18	28.9	C	LR	0.20	29.3	C	LR	0.20	29.3	C	LR	0.20	29.3	C	LR	0.18	29.0	C	LR	0.19	29.1	C
	R	1.08	100.0	F	R	1.08	100.0	F	R	0.40	32.7	C	R	0.40	32.7	C	R	0.47	34.4	C	R	0.47	34.4	C
											20.22													
	Intersection		36.1	D	Intersection		35.8	D	Intersection		0.3	C	Intersection		20.3	C	Intersection		20.3	C	Intersection		20.7	C

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn, LOS = Level of Service, EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound, Int. = Intersection
+ Denotes a significant adverse traffic impact.

Table 12-25
2029 No Action and 2029 With Action Conditions Level of Service Analysis
Unsignalized Intersections

	Weekday AM								Weekday Midday								Weekday PM							
	2029 No Action				2029 With Action				2029 No Action				2029 With Action				2029 No Action				2029 With Action			
Intersection	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
East 181st Street and Vyse Avenue																								
NB	LT	0.19	10.9	B	LT	0.23	11.6	B	LT	0.15	10.3	B	LT	0.16	10.4	B	LT	0.19	10.8	B	LT	0.19	10.9	B
Lebanon Street and Devoe Avenue																								
SB	LT	0.01	8.3	A	LT	0.01	8.3	A	LT	0.00	7.9	A	LT	0.00	7.9	A	LT	0.01	7.8	A	LT	0.01	7.8	A
East 179th Street and Boston Road																								
WB	LTR	0.21	34.9	D	LTR	0.56	53.1	F	LTR	0.07	13.7	B	LTR	0.13	14.3	B	LTR	0.13	19.4	C	LTR	0.39	28.4	D
NB	LTR	0.13	14.1	B	LTR	0.14	14.2	B	LTR	0.05	8.4	A	LTR	0.05	8.4	A	LTR	0.09	9.7	A	LTR	0.09	9.8	A
SB	LTR	0.01	9.8	A	LTR	0.03	10.3	B	LTR	0.00	8.0	A	LTR	0.02	8.1	A	LTR	0.01	8.7	A	LTR	0.04	9.3	A
East 179th Street and Devoe Avenue																								
WB	LR	0.38	12.6	B	LR	0.42	13.8	B	LR	0.11	10.1	B	LR	0.11	10.1	B	LR	0.18	10.7	B	LR	0.19	11.1	B
Wyatt Street and Devoe Avenue																								
WB	R	0.06	12.0	B	R	0.06	12.1	B	R	0.05	12.2	B	R	0.05	12.3	B	R	0.09	14.1	B	R	0.09	14.9	B

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn, LOS = Level of Service, EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound, Int. = Intersection.
Bold and "+" denote a significant adverse traffic impact.

- Westbound approach at the East 180th Street and Boston Road intersection would deteriorate from LOS E (72.9 spv of delay) to LOS F (111.2 spv of delay) and within LOS F (from 82.0 spv of delay to 196.6 spv of delay), increases in delay of more than four seconds and three seconds during the weekday AM and PM peak hours, respectively. These projected increases in delay constitute significant adverse impacts.
- Southbound approach at the East 180th Street and Boston Road intersection would deteriorate from LOS C (34.5 spv of delay) to LOS E (60.4 spv of delay) and from LOS D (39.6 spv of delay) to LOS E (55.2 spv of delay), increases in delay of more than five seconds, during the weekday AM and PM peak hours, respectively. These projected increases in delay constitute significant adverse impacts.
- Eastbound approach at the East 180th Street and Devoe Avenue intersection would deteriorate from LOS C (34.3 spv of delay) to LOS D (50.8 spv of delay), an increase in delay of more than five seconds, during the weekday AM peak hour. This projected increase in delay constitutes a significant adverse impact.
- Eastbound approach at the East 178th Street and Boston Road intersection would deteriorate from LOS D (45.9 spv of delay) to LOS E (55.9 spv of delay), and from LOS D (50.4 spv of delay) to LOS F (82.3 spv of delay), increases in delay of more than five seconds, during the weekday AM and PM peak hours, respectively. These projected increases in delay constitute significant adverse impacts.
- Southbound approach at the East Tremont Avenue and Daly Avenue intersection would deteriorate within LOS D (from 42.3 spv of delay to 48.7 spv of delay), an increase in delay of more than five seconds, during the weekday AM peak hour. This projected increase in delay constitutes a significant adverse impact.
- Westbound approach at the East Tremont Avenue and Boston Road/West Farms Road intersection would deteriorate within LOS F (from 395.5 spv of delay to 483.2 spv of delay), within LOS F (from 229.5 spv of delay to 253.8 spv of delay), and within LOS F (from 204.0 spv of delay to 320.3 spv of delay), increases in delay of more than three seconds, during the weekday AM, midday and PM peak hours, respectively. These projected increases in delay constitute significant adverse impacts.

- Northbound (West Farms Road) ~~approach~~ right-turn at the East Tremont Avenue and Boston Road/West Farms Road intersection would deteriorate within LOS F (from ~~293.3~~333.0 spv of delay to ~~312.6~~360.1 spv of delay), and within LOS F (from ~~240.1~~253.7 spv of delay to ~~289.5~~319.0 spv of delay), increases in delay of more than three seconds during the weekday midday and PM peak hours, respectively. These projected increases in delay constitute significant adverse impacts.
- Northbound (Boston Road) approach at the East Tremont Avenue and Boston Road/West Farms Road intersection would deteriorate within LOS F (from 187.9 spv of delay to 199.0 spv of delay), within LOS F (from 123.7 spv of delay to 128.3 spv of delay), and within LOS F (from 151.3 spv of delay to 154.8 spv of delay), increases in delay of more than three seconds during the weekday AM, midday, and PM peak hours, respectively. These projected increases in delay constitute significant adverse impacts.
- Southbound defacto left-turn at the East Tremont Avenue and Boston Road/West Farms Road intersection would deteriorate within LOS F (from ~~384.7~~307.9 spv of delay to ~~557.0~~459.9 spv of delay), ~~within LOS F (from 326.1 spv of delay to 393.7 spv of delay),~~ and within LOS F (from ~~227.7~~206.0 spv of delay to ~~320.4~~330.2 spv of delay), increases in delay of more than three seconds during the weekday AM~~, midday,~~ and PM peak hours, respectively. These projected increases in delay constitute significant adverse impacts.
- Southbound approach at the East Tremont Avenue and Boston Road/West Farms Road intersection would deteriorate within LOS E (from 56.3 spv of delay to 68.5 spv of delay), an increase of more than four seconds during the weekday midday peak hour. This projected increase constitutes a significant adverse impact.
- Northbound left-turn at the East Tremont Avenue and Devoe Avenue/East 177th Street intersection would deteriorate within LOS F (from 132.5 spv of delay to 179.1 spv of delay), within LOS F (from 131.0 spv of delay to 150.6 spv of delay), and within LOS F (from 163.2 spv of delay to 266.1 spv of delay), increases in delay of more than three seconds during the weekday AM, midday, and PM peak hours, respectively. These projected increases in delay constitute significant adverse impacts.
- Eastbound left-turn/through/right-turn at the intersection of East 177th Street and Sheridan Expressway intersection would deteriorate within LOS E (from 61.1 spv of delay to 68.2 spv of delay), an increase of more than four seconds during the weekday PM peak hour. This projected increase in delay constitutes a significant adverse impact.
- Southbound left-turn/through at the East 177th Street and Sheridan Expressway intersection would deteriorate within LOS F (from ~~476.8~~540.7 spv of delay to ~~549.0~~611.4 spv of delay), within LOS F (from ~~141.2~~101.8 spv of delay to ~~159.1~~113.8 spv of delay), and ~~within~~ from LOS E (78.5 spv of delay) to LOS F (~~from 83.7 spv of delay to 96.6~~89.7 spv of delay), increases in delay of more than three, three, and four seconds during the weekday AM, midday, and PM peak hours, respectively. These projected increases constitute significant adverse impacts.
- Southbound right-turn at the East 177th Street and Sheridan Expressway intersection would deteriorate within LOS F (from ~~110.5~~120.0 spv of delay to ~~145.3~~156.6 spv of delay), an increase in delay of more than three seconds during the weekday AM peak hours. This projected increase in delay constitutes a significant adverse impact~~s~~.
- Westbound approach at the East 179th Street and Boston Road intersection would deteriorate from LOS D (34.9 spv of delay) to LOS F (53.1 spv of delay), an increase in delay of more than five seconds during the weekday AM peak hour. However, the East

179th Street unsignalized westbound approach would experience fewer than 90 PCEs in the With Action condition in any peak hour. Therefore, this projected increase in delay would not constitute a significant adverse impact.

E. DETAILED TRANSIT ANALYSIS

The proposed project is located near the West Farms Square/East Tremont Avenue subway station, serving the No. 2 and 5 lines. Most projected subway trips are expected to be served by this station. The NYCT Bx9, Bx21, Bx36, Bx40, Bx42, and Q44 local bus routes also have stops adjacent to or near the Development Site. These subway and bus facilities are illustrated in **Figure 12-2.**

A detailed analysis of transit operations and subway line-haul conditions during the critical weekday AM and PM peak periods is presented below. During other time periods, background transit ridership and station utilization, as well as project trip generation, are comparatively lower. Hence, potential transit impacts were evaluated only for the weekday AM and PM peak periods.

TRANSIT STUDY AREAS

SUBWAY SERVICE

Below is a summary of the subway lines that serve the Lambert Houses site from the West Farms Square/East Tremont Avenue subway station.

- The No. 2 subway line (Seventh Avenue Express) operates between Wakefield-241st Street, Bronx and Flatbush Avenue-Brooklyn College, Brooklyn.
- The No. 5 subway line (Lexington Avenue Express) operates between Eastchester-Dyre Avenue, Bronx and Flatbush Avenue-Brooklyn College, Brooklyn. During morning and evening peak periods, the route is extended to Nereid Avenue (238th Street), Bronx.

As discussed above in Section B, "Preliminary Analysis Methodology and Screening Assessment," an analysis of subway station elements at the West Farms Square/East Tremont Avenue station and a subway line-haul analysis for the No. 2 subway line would be warranted for the weekday AM and PM peak hours.

BUS SERVICE

Based on the travel demand estimates and the availability and service frequencies of the bus routes in the study area, it was determined that none would incur 50 or more peak hour riders in a single direction—the CEQR recommended threshold for undertaking a quantified bus analysis. Therefore, a quantified bus line-haul analysis is not warranted and the proposed project is not expected to result in any significant adverse bus line-haul impacts. The local bus routes operate standard buses with a guideline capacity of 54 passengers per bus. **Table 12-26** provides a summary of these bus routes and their peak period schedules.

Table 12-26
NYCT Local Bus Routes Serving The Study Area

Bus Route	Start Point	End Point	Routing in Study Area	Freq. of Bus Service (Headway in Minutes)	
				(7:15 AM – 8:15 AM)	(4 PM – 5 PM)
Bx9 (NB/SB)	East Tremont Av – West Farms Rd	Riverdale – W. 242nd Street	Boston Rd, E. Tremont Av, E. 180th St, Devoe Av	(4/5)	(6/6)
Bx21 (NB/SB)	Mott Haven	Westchester Square	Boston Road and East Tremont Avenue	(9/6)	(8/7)
Bx36 (EB/WB)	Washington Heights, Manhattan	Soundview	East Tremont Avenue	(5/3)	(4/4)
Bx40 (EB/WB)	Morris Heights	Throgs Neck	East Tremont Avenue	(22/13)	(15/15)
Bx42 (EB/WB)	Morris Heights	Throgs Neck	East Tremont Avenue	(22/13)	(15/15)
Q44 (NB/SB)	Jamaica, Queens	Bronx Park South	Boston Rd, E. Tremont Av, E. 180th St, Devoe Av	(7/6)	(8/7)

Source: NYCT Timetables (2015).

SUBWAY STATION ANALYSIS

SUBWAY STATION ANALYSIS—2014 EXISTING CONDITIONS

As presented above in Section B under "Level 1 Screening Assessment," the proposed project is expected to generate 346 and 391 peak hour net incremental subway trips during the weekday AM and PM peak hours, respectively. These trips were assigned to the two area subway lines, and critical station elements, including station control areas and stairways.

West Farms Square/East Tremont Avenue Station

The West Farms Square/East Tremont Avenue subway station is an elevated subway station complex served by the No. 2 and 5 trains located at the intersection of East Tremont Avenue and Boston Road. Based on the assignment pattern for trips to the Development Site, the following station elements identified for the analysis are listed below:

- Two control areas: R323A at East 178th Street with two high entry-exit turnstiles (HEETs), and R323 at East Tremont Avenue with five two-way turnstiles;
- Three street-level stairways: one on the west sidewalk of Boston Road north of East 178th Street (S3/M7), and two on the east sidewalk of Boston Road between East 178th Street and East Tremont Avenue (S2/M2/M4/M6 and S4/M8/M10);
- Four platform-level stairways: two leading to the Manhattan-bound platform (P/11/P13/P15 and M11) and two leading to the Bronx-bound platform (P10/P12/P14 and M12).

Field surveys conducted in November 2014 provided the baseline volumes for the analysis of the above subway station elements. As shown in **Tables 12-27 through 12-29**, all analyzed stairways and control areas currently operate at acceptable levels during the weekday AM and PM peak periods.

Table 12-27
2014 Existing Conditions Subway Platform Stair Analysis
West Farms Square – East Tremont Avenue Station

Stair	Location	Width (ft)	Effective Width (ft)	Peak Hour Volumes		Peak 15-Minute Volumes		Friction Factor	Surge Factor		V/C Ratio	LOS
				Up	Down	Up	Down		Up	Down		
AM Peak Hour												
P11/P13/P15	Manhattan-bound, R323A fare zone	5.0	4.0	160	47	50	15	0.90	1.00	0.75	0.13	A
P10/P12/P14	Bronx-bound, R323A fare zone	6.0	5.0	40	58	13	18	0.90	1.00	0.75	0.05	A
M11	Manhattan-bound, R323 fare zone	5.0	4.0	653	357	204	112	0.90	1.00	0.75	0.65	B
M12	Bronx-bound, R323 fare zone	5.0	4.0	256	357	80	112	0.90	1.00	0.75	0.42	A
PM Peak Hour												
P11/P13/P15	Manhattan-bound, R323A fare zone	5.0	4.0	60	47	19	15	0.90	1.00	0.75	0.07	A
P10/P12/P14	Bronx-bound, R323A fare zone	6.0	5.0	10	157	3	49	0.90	1.00	0.75	0.10	A
M11	Manhattan-bound, R323 fare zone	5.0	4.0	395	228	123	71	0.90	1.00	0.75	0.40	A
M12	Bronx-bound, R323 fare zone	5.0	4.0	189	489	59	153	0.90	1.00	0.75	0.49	B

Table 12-28
2014 Existing Conditions Free-Zone Stair Analysis
West Farms Square – East Tremont Avenue Station

Free-Zone Stair	Location	Width (ft)	Effective Width (ft)	Peak Hour Volumes		Peak 15-Minute Volumes		Friction Factor	Surge Factor		V/C Ratio	LOS
				Up	Down	Up	Down		Up	Down		
AM Peak Hour												
S3/M7	NW corner of 178th St and Boston Rd	5.0	4.0	195	109	61	34	0.90	1.00	0.80	0.19	A
S4/M8/M10	SE corner of 178th St and Boston Rd	4.8	3.8	33	210	10	66	0.90	1.00	0.80	0.18	A
S2/M2/M4/M6	NE corner of East Tremont Av and Boston Rd	4.8	3.8	116	513	36	160	0.90	1.00	0.80	0.46	B
PM Peak Hour												
S3/M7	NW corner of 178th St and Boston Rd	5.0	4.0	70	206	22	64	0.90	1.00	0.80	0.19	A
S4/M8/M10	SE corner of 178th St and Boston Rd	4.8	3.8	40	280	13	88	0.90	1.00	0.80	0.24	A
S2/M2/M4/M6	NE corner of East Tremont Av and Boston Rd	4.8	3.8	105	300	33	94	0.90	1.00	0.80	0.29	A

Table 12-29
2014 Existing Conditions Subway Fare Array Analysis
West Farms Square – East Tremont Avenue Station

Station Fare Array Elements	Quantity	Fare Array Capacity for 15 Minutes (per element)		Peak Hour Pedestrian Volumes		Surging Factor	Friction Factor	V/C Ratio	LOS
		Entry	Exit	Entry	Exit				
Weekday AM Peak Hour									
Two-way Turnstiles R323 fare zone	5	420	645	909	714	0.80	0.90	0.25	A
High Entry/Exit Turnstile (HEET) R323A fare zone	2	255	540	173	137	0.80	0.90	0.17	A
Weekday PM Peak Hour									
Two-way Turnstiles R323 fare zone	5	420	645	584	717	0.80	0.90	0.19	A
High Entry/Exit Turnstile (HEET) R323A fare zone	2	255	540	70	204	0.80	0.90	0.13	A

SUBWAY STATION ANALYSIS—2029 NO ACTION CONDITION

Estimates of peak hour transit volumes in the 2029 No Action Condition were developed by applying the *CEQR Technical Manual* recommended annual background growth rates. An annual background growth rate of 0.25 percent was assumed for the years 2014 to 2019, and an annual background growth rate of 0.125 percent was assumed for the years 2019 to 2029. Subway trips associated with the Development Site re-tenanting of residential units and retail uses were also incorporated into the future No Action transit volumes. In addition, trips associated with No Build projects were also incorporated into the future No Action transit volumes. The No Action peak period volume projections were allocated to the transit analysis elements described above.

Tables 12-30 through 12-32 summarize the 2029 No Action AM and PM peak hour service levels at all analyzed stairs and fare arrays at the West Farms Square/East Tremont Avenue subway station. Of the analyzed station elements, all locations are expected to operate at LOS C or better in the AM and PM peak hours.

Table 12-30
2029 No Action Condition Subway Platform Stair Analysis
West Farms Square – East Tremont Avenue Station

Stair	Location	Width (ft)	Effective Width (ft)	Peak Hour Volumes		Peak 15-Minute Volumes		Friction Factor	Surge Factor		V/C Ratio	LOS
				Up	Down	Up	Down		Up	Down		
AM Peak Hour												
P11/P13/P15	Manhattan-bound, R323A fare zone	5.0	4.0	183	50	57	16	0.90	1.00	0.75	0.15	A
P10/P12/P14	Bronx-bound, R323A fare zone	6.0	5.0	48	62	15	19	0.90	1.00	0.75	0.06	A
M11	Manhattan-bound, R323 fare zone	5.0	4.0	1,097	416	343	130	0.90	1.00	0.75	0.96	C
M12	Bronx-bound, R323 fare zone	5.0	4.0	418	417	131	130	0.90	1.00	0.75	0.56	B
PM Peak Hour												
P11/P13/P15	Manhattan-bound, R323A fare zone	5.0	4.0	69	55	22	17	0.90	1.00	0.75	0.08	A
P10/P12/P14	Bronx-bound, R323A fare zone	6.0	5.0	13	178	4	56	0.90	1.00	0.75	0.12	A
M11	Manhattan-bound, R323 fare zone	5.0	4.0	559	385	175	120	0.90	1.00	0.75	0.62	B
M12	Bronx-bound, R323 fare zone	5.0	4.0	261	859	82	268	0.90	1.00	0.75	0.81	C

Table 12-31
2029 No Action Condition Free-Zone Stair Analysis
West Farms Square – East Tremont Avenue Station

Free-Zone Stair	Location	Width (ft)	Effective Width (ft)	Peak Hour Volumes		Peak 15-Minute Volumes		Friction Factor	Surge Factor		V/C Ratio	LOS
				Up	Down	Up	Down		Up	Down		
AM Peak Hour												
S3/M7	NW corner of 178th St and Boston Rd	5.0	4.0	226	117	71	37	0.90	1.00	0.80	0.22	A
S4/M8/M10	SE corner of 178th St and Boston Rd	4.8	3.8	35	216	11	68	0.90	1.00	0.80	0.19	A
S2/M2/M4/M6	NE corner of East Tremont Av and Boston Rd	4.8	3.8	275	539	86	168	0.90	1.00	0.80	0.58	B
PM Peak Hour												
S3/M7	NW corner of 178th St and Boston Rd	5.0	4.0	82	234	26	73	0.90	1.00	0.80	0.22	A
S4/M8/M10	SE corner of 178th St and Boston Rd	4.8	3.8	42	288	13	90	0.90	1.00	0.80	0.24	A
S2/M2/M4/M6	NE corner of East Tremont Av and Boston Rd	4.8	3.8	149	423	47	132	0.90	1.00	0.80	0.41	A

Table 12-32
2029 No Action Condition Subway Fare Array Analysis
West Farms Square – East Tremont Avenue Station

Station Fare Array Elements	Quantity	Fare Array Capacity for 15 Minutes (per element)		Peak Hour Pedestrian Volumes		Surging Factor	Friction Factor	V/C Ratio	LOS
		Entry	Exit	Entry	Exit				
Weekday AM Peak Hour									
Two-way Turnstiles R323 fare zone	5	420	645	1,515	834	0.80	0.90	0.36	A
High Entry/Exit Turnstile (HEET) R323A fare zone	2	255	540	204	146	0.80	0.90	0.20	A
Weekday PM Peak Hour									
Two-way Turnstiles R323 fare zone	5	420	645	822	1,244	0.80	0.90	0.30	A
High Entry/Exit Turnstile (HEET) R323A fare zone	2	255	540	82	232	0.80	0.90	0.15	A

SUBWAY STATION ANALYSIS—2029 WITH ACTION CONDITION

As shown in **Table 12-6**, the proposed project is expected to generate 346 and 391 incremental subway trips in the AM and PM peak hours, respectively. Most of these trips were assigned to the West Farms Square/East Tremont Avenue station, and some trips were assigned to the East 180th Street station, both served by the No. 2 and 5 subway lines. The West Farms Square/East Tremont Avenue station is expected to experience a total of 295 and 302 incremental subway trips in the weekday AM and PM peak hours, respectively.

As shown in **Tables 12-33 through 12-35**, all station analysis elements would continue to operate at an acceptable LOS C or better in both the weekday AM and PM peak hours. Therefore, the proposed project would not result in any significant adverse impact at the West Farms Square/East Tremont Avenue subway station.

Table 12-33
2029 With Action Conditions Subway Platform Stair Analysis
West Farms Square – East Tremont Avenue Station

Stair	Location	Width (ft)	Effective Width (ft)	Peak Hour Volumes		Peak 15-Minute Volumes		Friction Factor	Surge Factor		V/C Ratio	LOS
				Up	Down	Up	Down		Up	Down		
AM Peak Hour												
P11/P13/P15	Manhattan-bound, R323A fare zone	5.0	4.0	340	53	106	17	0.90	1.00	0.75	0.24	A
P10/P12/P14	Bronx-bound, R323A fare zone	6.0	5.0	62	90	19	28	0.90	1.00	0.75	0.08	A
M11	Manhattan-bound, R323 fare zone	5.0	4.0	1,143	419	357	131	0.90	1.00	0.75	0.98	C
M12	Bronx-bound, R323 fare zone	5.0	4.0	422	457	132	143	0.90	1.00	0.75	0.60	B
PM Peak Hour												
P11/P13/P15	Manhattan-bound, R323A fare zone	5.0	4.0	135	69	42	22	0.90	1.00	0.75	0.13	A
P10/P12/P14	Bronx-bound, R323A fare zone	6.0	5.0	19	324	6	101	0.90	1.00	0.75	0.21	A
M11	Manhattan-bound, R323 fare zone	5.0	4.0	582	389	182	122	0.90	1.00	0.75	0.64	B
M12	Bronx-bound, R323 fare zone	5.0	4.0	263	900	82	281	0.90	1.00	0.75	0.85	C

Table 12-34
2029 With Action Conditions Free-Zone Stair Analysis
West Farms Square – East Tremont Avenue Station

Free-Zone Stair	Location	Width (ft)	Effective Width (ft)	Peak Hour Volumes		Peak 15-Minute Volumes		Friction Factor	Surge Factor		V/C Ratio	LOS
				Up	Down	Up	Down		Up	Down		
AM Peak Hour												
S3/M7	NW corner of 178th St and Boston Rd	5.0	4.0	397	148	124	46	0.90	1.00	0.80	0.34	A
S4/M8/M10	SE corner of 178th St and Boston Rd	4.8	3.8	59	220	18	69	0.90	1.00	0.80	0.20	A
S2/M2/M4/M6	NE corner of East Tremont Av and Boston Rd	4.8	3.8	301	578	94	181	0.90	1.00	0.80	0.62	B
PM Peak Hour												
S3/M7	NW corner of 178th St and Boston Rd	5.0	4.0	154	394	48	123	0.90	1.00	0.80	0.37	A
S4/M8/M10	SE corner of 178th St and Boston Rd	4.8	3.8	52	310	16	97	0.90	1.00	0.80	0.27	A
S2/M2/M4/M6	NE corner of East Tremont Av and Boston Rd	4.8	3.8	164	446	51	139	0.90	1.00	0.80	0.44	A

Table 12-35
2029 With Action Condition Subway Fare Array Analysis
West Farms Square – East Tremont Avenue Station

Station Fare Array Elements	Quantity	Fare Array Capacity for 15 Minutes (per element)		Peak Hour Pedestrian Volumes		Surging Factor	Friction Factor	V/C Ratio	LOS
		Entry	Exit	Entry	Exit				
Weekday AM Peak Hour									
Two-way Turnstiles R323 fare zone	5	420	645	1,565	877	0.80	0.90	0.38	A
High Entry/Exit Turnstile (HEET) R323A fare zone	2	255	540	375	177	0.80	0.90	0.33	A
Weekday PM Peak Hour									
Two-way Turnstiles R323 fare zone	5	420	645	847	1,289	0.80	0.90	0.31	A
High Entry/Exit Turnstile (HEET) R323A fare zone	2	255	540	154	392	0.80	0.90	0.26	A

SUBWAY LINE HAUL ANALYSIS

SUBWAY LINE HAUL ANALYSIS—2014 EXISTING CONDITIONS

To determine peak conditions for the weekday AM and PM subway line-haul, 2014 weekday AM and PM line-haul data for the No. 2 line at the peak load points were obtained from NYCT. As shown below in **Table 12-36**, the No. 2 line will exceed the guideline capacity at the maximum load points in both the AM and PM peak hours.

Table 12-36
2014 Existing Conditions: Peak Hour Subway Line Haul

Subway Line	Station	Trains/Hour[1]	Passengers /Hr	Load		Available Capacity
				Guideline Capacity	V/C Ratio	
Weekday AM Peak Period						
2 – Southbound	72nd Street	13	15,029	13,970	1.08	-1,059
Weekday PM Peak Period						
2 – Northbound	Times Square – 42nd Street	11	12,479	12,430	1.00	-49

Note:
[1] Trains/hour numbers are rounded to whole numbers.
Sources: New York City Transit

SUBWAY LINE HAUL ANALYSIS—2029 NO ACTION CONDITION

Estimates of peak hour line-haul ridership volumes in the No Action condition were developed by applying the CEQR-recommended 0.25 percent annual background growth rate from 2014 to 2019 and 0.125 percent background growth rate from 2020 to 2029 onto existing ridership volumes. Subway trips associated with the Development Site re-tenanting of residential units were also incorporated into the future No Action subway line-haul volumes. For the Development Site re-tenanting of residential units of parcels 1 and 5, 20 percent of subway trips were assigned to the No. 5 line, while the remaining 80 percent were assigned to the No. 2 line.

In addition, trips associated with the residential, manufacturing, or office components of the No Build projects were also incorporated into the future No Action subway line-haul volumes. Based on

Census journey-to-work origin-destination data, approximately 74 percent of subway trips generated by these projects were assumed to pass through the No. 2 line's maximum load points in Manhattan.

As shown in **Table 12-37**, the No. 2 line would continue to exceed the guideline capacity during the weekday AM and PM peak hours in the No Action condition.

Table 12-37
2029 No Action Condition: Peak Hour Subway Line Haul

Subway Line	Station	Trains/Hour[1]	Passengers /Hr	Load		Available Capacity
				Guideline Capacity	V/C Ratio	
Weekday AM Peak Period						
2 – Southbound	72nd Street	13	16,031	13,970	1.15	-2,061
Weekday PM Peak Period						
2 – Northbound	Times Square – 42nd Street	11	13,202	12,430	1.06	-772

Note:
[1] Trains/hour numbers are rounded to whole numbers.
Sources: New York City Transit

SUBWAY LINE HAUL ANALYSIS—2029 WITH ACTION CONDITION

The project is expected to generate 346 subway trips in the weekday AM peak hour and 391 subway trips in the weekday PM peak hour in total. These project-generated subway trips were distributed to two subway stations: West Farms Square – East Tremont Avenue, which has service to the No. 2 local line, and East 180th Street which has service to both the No.2 line and the No. 5 line, which runs express during rush hours. Approximately 40 percent of project-generated subway trips for Parcels 1 and 5 were assigned to the East 180th Street, and were then evenly distributed between the No. 2 and No. 5 lines. The remaining project-generated subway trips were assigned to the No. 2 line. The With Action condition line-haul analysis assumes that only subway trips generated by the project's residential units would affect the No. 2 line's maximum loading points in Manhattan. The With Action condition line-haul analysis also assumes that 74 percent of subway trips generated by the project's residential units would pass through the No. 2 line's maximum load points in Manhattan.

As shown in **Table 12-38**, the No. 2 line would continue to exceed the guideline capacity during the weekday AM and PM peak hours in the With Action condition. However, since the No. 2 line was already operating above the guideline capacity for both the AM and PM peak hours in the No Action condition, and since approximately one passenger per car would be generated by the project for the No. 2 line in the peak direction for both the AM and PM peak hours, the proposed project would not result in any significant adverse subway line-haul impacts.

Table 12-38
2029 With Action Condition: Peak Hour Subway Line Haul

Subway Line	Station	Trains/Hour[1]	Project Generated Passengers / car	Passengers/Hr	Load		Available Capacity
					Guideline Capacity	V/C Ratio	
Weekday AM Peak Period							
2 – Southbound	72nd Street	13	1.10	16,171	13,970	1.16	-2,201
Weekday PM Peak Period							
2 – Northbound	Times Square – 42nd Street	11	0.68	13,279	12,430	1.07	-849

Note:
[1] Trains/hour numbers are rounded to whole numbers.
Sources: New York City Transit

F. DETAILED PEDESTRIAN ANALYSIS

As described above in Section B, "Preliminary Analysis Methodology and Screening Assessment," Level 1 and Level 2 screening analyses were prepared to identify the pedestrian elements warranting a detailed analysis. Based on the assignment of pedestrian trips, 15 sidewalks, 8 corners, and 6 crosswalks for the weekday peak hours were selected for analysis.

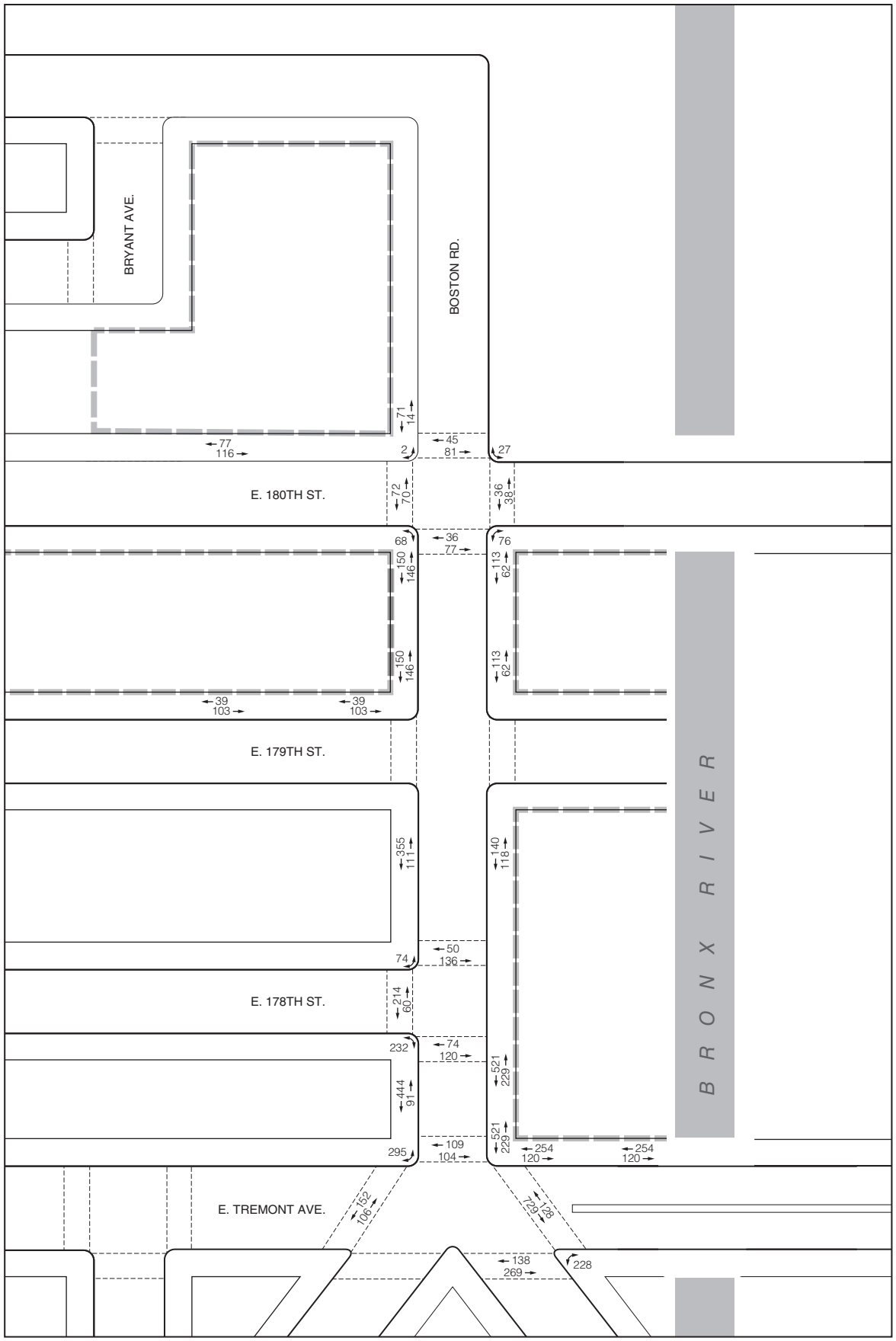
2014 EXISTING CONDITIONS

Pedestrian data were collected in November 2014 in accordance with procedures outlined in the *CEQR Technical Manual* during the weekday hours of 7:00 AM to 10:00 AM, 11:00 AM to 2:00 PM, and 4:00 PM to 7:00 PM.

STREET-LEVEL PEDESTRIAN OPERATIONS

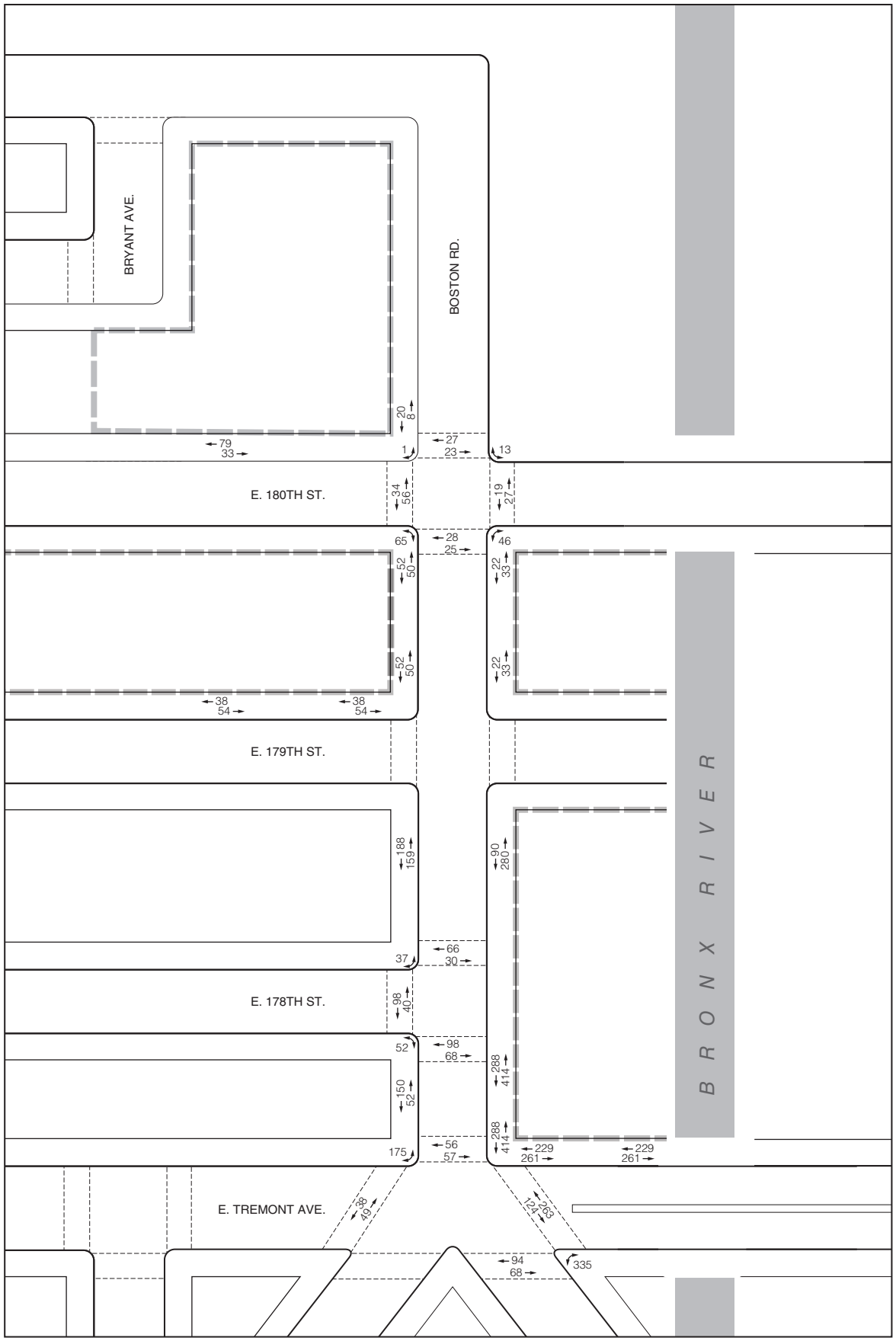
Peak hours were determined by comparing rolling hourly averages and the highest 15-minute volumes within the selected peak hours were selected for analysis. The existing peak hour pedestrian volumes are shown in **Figures 12-21 through 12-23**. A summary of the existing conditions pedestrian analysis results is presented in **Table 12-39**. As shown in **Tables 12-40 through 12-42**, all sidewalk, corner reservoir, and crosswalk analysis locations currently operate at acceptable LOS C or better (minimum of 40.0 SFP platoon flows for sidewalks; minimum of 24.0 SFP for corners and crosswalks), except for the following location:

- The east crosswalk of East Tremont Avenue and Boston Road/West Farms Road, which operates at LOS F with 5.5 SFP during the weekday AM peak hour, at LOS E with 9.0 SFP during the weekday midday peak hour, and at LOS F with 7.7 SFP during the weekday PM peak hour.



Development Site

2014 Existing Pedestrian Volumes
Weekday AM Peak Hour

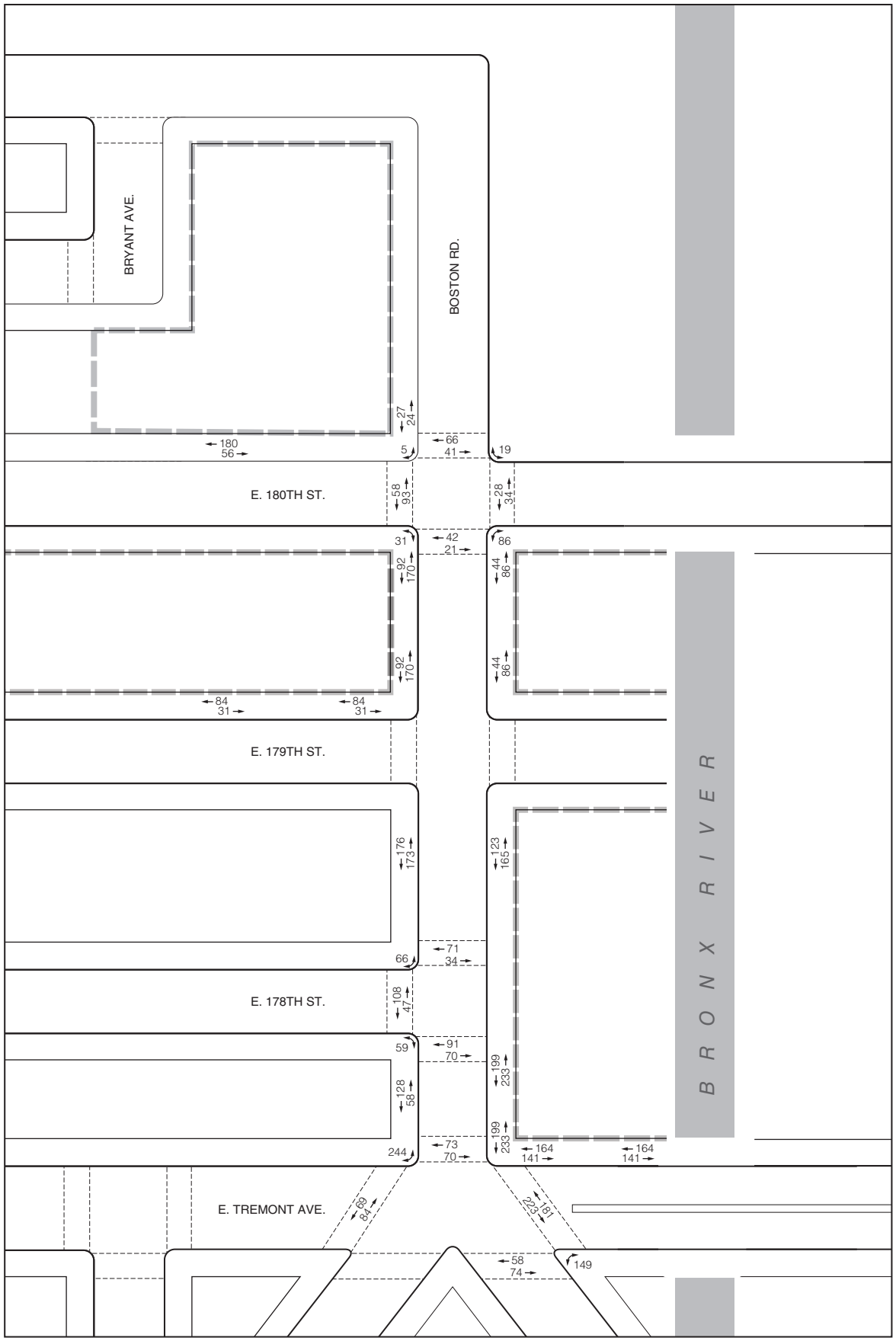


Development Site

2014 Existing Pedestrian Volumes
Weekday Midday Peak Hour

PHIPPS LAMBERT HOUSES

Figure 12-22



Development Site

2014 Existing Pedestrian Volumes
Weekday PM Peak Hour

PHIPPS LAMBERT HOUSES

Figure 12-23

Table 12-39
Summary of 2014 Existing Conditions Pedestrian Analysis Results

Level of Service	Analysis Peak Hours		
	Weekday AM	Weekday Midday	Weekday PM
Sidewalks			
Sidewalks at LOS A/B/C	15	15	15
Sidewalks at LOS D	0	0	0
Sidewalks at LOS E	0	0	0
Sidewalks at LOS F	0	0	0
Total	15	15	15
Corner Reservoirs			
Corners at LOS A/B/C	8	8	8
Corners at LOS D	0	0	0
Corners at LOS E	0	0	0
Corners at LOS F	0	0	0
Total	8	8	8
Crosswalks			
Crosswalks at LOS A/B/C	5	5	5
Crosswalks at LOS D	0	0	0
Crosswalks at LOS E	0	1	0
Crosswalks at LOS F	1	0	1
Total	6	6	6

Note: LOS = Level-of-Service.

Table 12-40
2014 Existing Conditions: Sidewalk Analysis

Location	Sidewalk	Effective Width (ft)	Two-way Peak Hour Volume	PHF	SFP	Platoon LOS
Weekday AM Peak Hour						
Boston Road between East 180th Street and East 179th Street	West-North	4.5	296	0.80	192.4	B
	West-South	11.5	296	0.80	492.2	B
	East-North	12.5	175	0.89	1010.2	A
	East-South	10.5	175	0.89	848.5	A
Boston Road between East 180th Street and Bronx Park South	West	8.5	85	0.80	1267.2	A
East 180th Street between Bryant Avenue and Boston Road	North	6.5	193	0.80	426.6	B
Boston Road between East 179th Street and East 178th Street	East	13.5	258	0.82	676.6	A
	West	13.5	466	0.90	411.1	B
East 179th Street between Bryant Avenue and Boston Road	North-East	5.0	142	0.80	446.1	B
	North-West	5.0	142	0.80	446.1	B
Boston Road between East 178th Street and East Tremont Avenue	East-North	14.5	750	0.83	253.9	B
	East-South	10.0	750	0.83	174.9	B
	West	4.5	535	0.98	130.6	B
East Tremont Avenue between Boston Road and Bronx Street	North	22.0	374	0.80	745.3	A
East Tremont Avenue between Bronx Street and East 177th Street	North	8.0	374	0.80	270.9	B
Weekday Midday Peak Hour						
Boston Road between East 180th Street and East 179th Street	West-North	4.5	102	0.94	659.9	A
	West-South	11.5	102	0.94	1686.6	A
	East-North	12.5	55	0.80	2880.0	A
	East-South	10.5	55	0.80	2419.2	A
Boston Road between East 180th Street and Bronx Park South	West	8.5	28	0.80	3846.8	A
East 180th Street between Bryant Avenue and Boston Road	North	6.5	112	0.88	804.3	A
Boston Road between East 179th Street and East 178th Street	East	13.5	370	0.80	462.2	B
	West	13.5	347	0.92	568.6	A
East 179th Street between Bryant Avenue and Boston Road	North-East	5.0	92	0.80	688.6	A
	North-West	5.0	92	0.80	688.6	A

Table 12-40 (cont'd)
2014 Existing Conditions: Sidewalk Analysis

Location	Sidewalk	Effective Width (ft)	Two-way Peak Hour Volume	PHF	SFP	Platoon LOS
Weekday Midday Peak Hour						
Boston Road between East 178th Street and East Tremont Avenue	East-North	14.5	702	0.80	261.5	B
	East-South	10.0	702	0.80	180.2	B
	West	4.5	202	0.80	282.1	B
East Tremont Avenue between Boston Road and Bronx Street	North	22.0	490	0.80	568.9	A
East Tremont Avenue between Bronx Street and East 177th Street	North	8.0	490	0.80	206.6	B
Weekday PM Peak Hour						
Boston Road between East 180th Street and East 179th Street	West-North	4.5	262	0.80	217.4	B
	West-South	11.5	262	0.80	556.1	A
	East-North	12.5	130	0.80	1218.4	A
	East-South	10.5	130	0.80	1023.5	A
Boston Road between East 180th Street and Bronx Park South	West	8.5	51	0.98	2589.2	A
East 180th Street between Bryant Avenue and Boston Road	North	6.5	236	0.80	348.9	B
Boston Road between East 179th Street and East 178th Street	East	13.5	288	0.83	614.4	A
	West	13.5	349	0.97	593.9	A
East 179th Street between Bryant Avenue and Boston Road	North-East	5.0	115	0.90	618.7	A
	North-West	5.0	115	0.90	618.7	A
Boston Road between East 178th Street and East Tremont Avenue	East-North	14.5	432	0.80	425.2	B
	East-South	10.0	432	0.80	293.1	B
	West	4.5	186	0.80	306.4	B
East Tremont Avenue between Boston Road and Bronx Street	North	22.0	305	0.85	967.9	A
East Tremont Avenue between Bronx Street and East 177th Street	North	8.0	305	0.85	353.0	B

Note: SFP = square feet per pedestrian.

Table 12-41
2014 Existing Conditions: Corner Analysis

Location	Corner	Weekday AM Peak Hour		Weekday Midday Peak Hour		Weekday PM Peak Hour	
		SFP	LOS	SFP	LOS	SFP	LOS
East 180th Street and Boston Road	Northwest	664.1	A	1386.2	A	731.4	A
	Northeast	984.0	A	2001.7	A	1168.7	A
	Southwest	551.9	A	897.3	A	765.5	A
	Southeast	701.3	A	1247.9	A	867.5	A
East 178th Street and Boston Road	Northwest	217.9	A	499.5	A	363.2	A
	Southwest	178.7	A	373.4	A	332.4	A
East Tremont Avenue and Boston Road/West Farms Road	Northwest	204.7	A	419.2	A	279.3	A
	Southeast	327.1	A	550.6	A	722.2	A

Note: SFP = square feet per pedestrian.

Table 12-42
2014 Existing Conditions: Crosswalk Analysis

Location	Crosswalk	Crosswalk Length (ft)	Crosswalk Width (ft)	2-way Peak Hour Volume	SFP	LOS
Weekday AM Peak Hour						
East 180th Street and Boston Road	West	50	18	142	329.5	A
East 178th Street and Boston Road	North	43	16	186	114.6	A
	South	42	15	194	98.3	A
	West	34	16	274	241.1	A
East Tremont Avenue and Boston Road/West Farms Road*	North	42	15	213	92.0	A
	East (South Segment)	32	15	857	5.5	F
Weekday Midday Peak Hour						
East 180th Street and Boston Road	West	50	18	90	518.4	A
East 178th Street and Boston Road	North	43	16	96	357.8	A
	South	42	15	166	159.0	A
	West	34	16	138	409.1	A
East Tremont Avenue and Boston Road/West Farms Road*	North	42	15	113	97.7	A
	East (South Segment)	32	15	387	9.0	E
Weekday PM Peak Hour						
East 180th Street and Boston Road	West	50	18	151	346.3	A
East 178th Street and Boston Road	North	43	16	105	201.0	A
	South	42	15	161	118.3	A
	West	34	16	155	404.4	A
East Tremont Avenue and Boston Road/West Farms Road*	North	42	15	143	125.4	A
	East (South Segment)	32	15	404	7.7	F

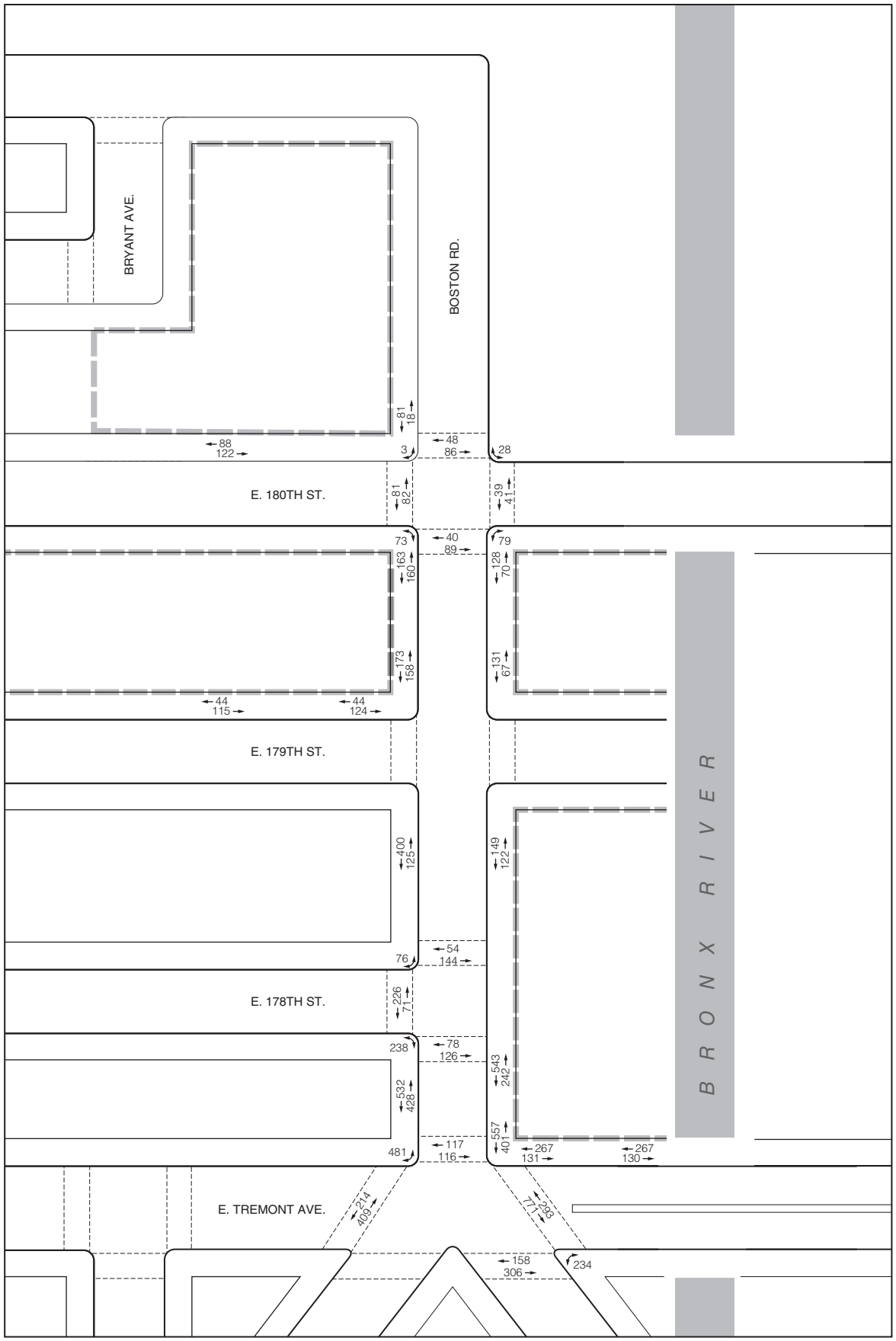
Note: SFP = square feet per pedestrian.
*Based on the existing intersection configuration, the shortest segment of the east crosswalk was analyzed.

THE FUTURE WITHOUT THE PROPOSED PROJECT

2029 No Action pedestrian volumes were estimated by increasing existing pedestrian levels to reflect expected growth in overall travel through and within the study area. As per *CEQR* guidelines, an annual background growth rate of 0.25 percent was assumed for the years 2014 to 2019, and an annual background growth rate of 0.125 percent was assumed for the years 2019 to 2029. Pedestrian volumes from projects that are anticipated to be completed in the study area and from the re-tenanting of residential units and retail uses on the Development Site parcels were added to determine the No Action condition pedestrian volumes. The 2029 No Action pedestrian volumes for the weekday AM, midday, and PM peak hours are presented in **Figures 12-24 through 12-26**.

CHANGES TO THE STUDY AREA STREET NETWORK

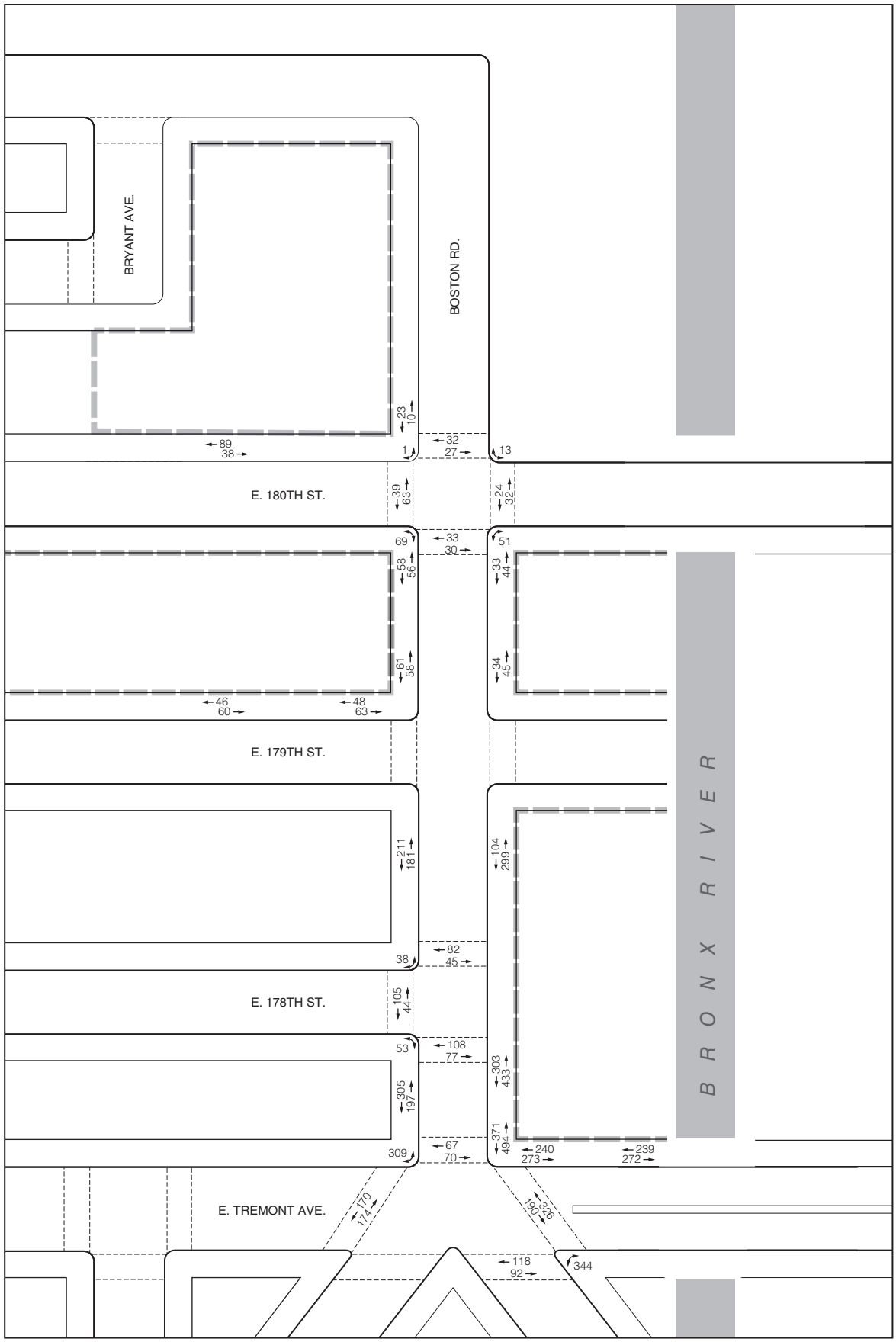
As described above, NYCDOT will be modifying the traffic operations/roadway configuration at three of the intersections in study area. For the intersection of East Tremont Avenue and Boston Road/West Farms Road, in addition to the traffic approaches reconfigurations, crosswalks at this intersection will also be reconfigured from existing conditions. Specifically, the north crosswalk will be reconfigured from the existing length of approximately 42 feet and a width of 15 feet to a



Development Site

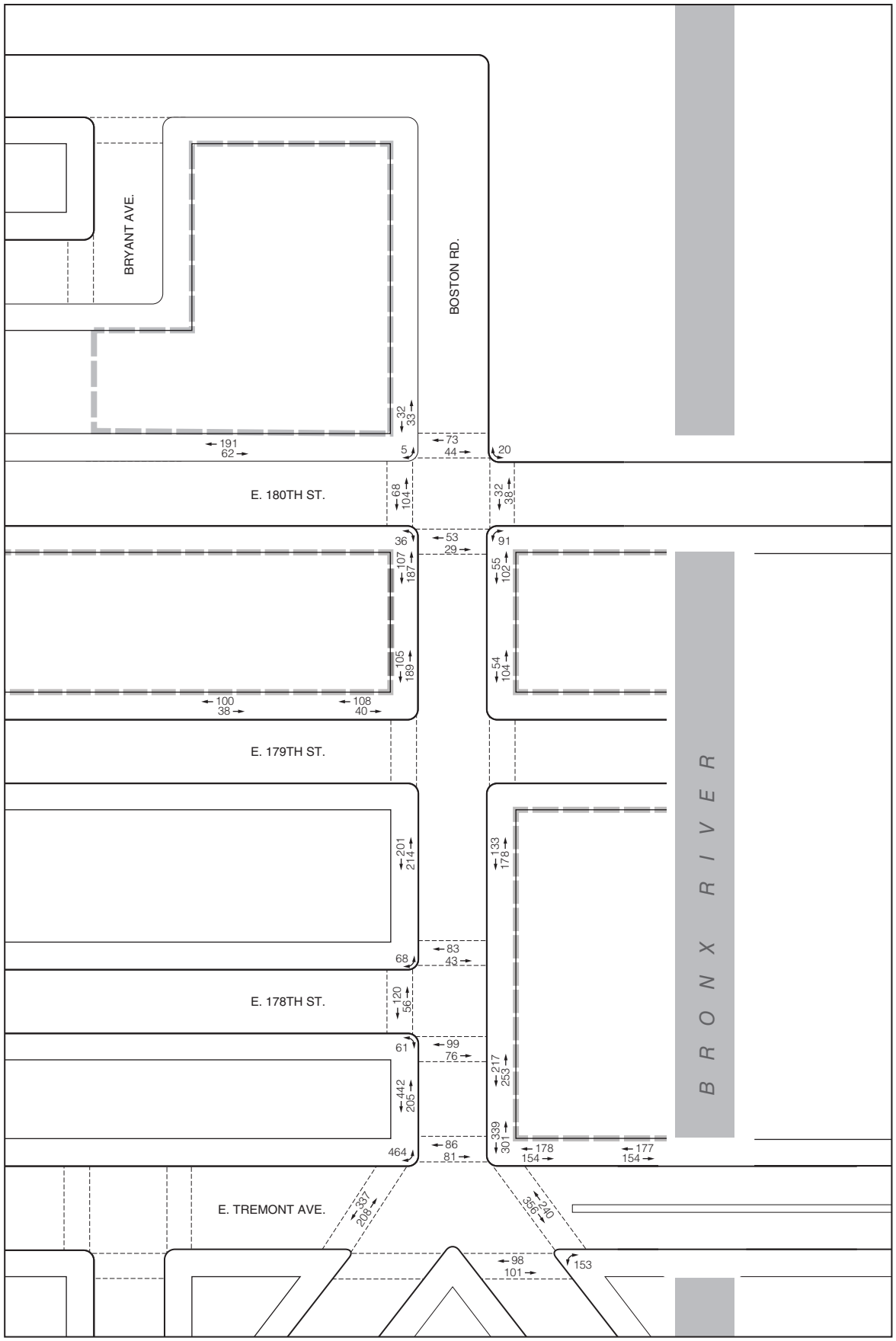
2029 No Action Pedestrian Volumes
Weekday AM Peak Hour

Figure 12-24



Development Site

2029 No Action Pedestrian Volumes
Weekday Midday Peak Hour



Development Site

2029 No Action Pedestrian Volumes
Weekday PM Peak Hour

Figure 12-26

future length of ~~60~~ 42 feet and a width of 12 feet. The north portion of the east crosswalk will be reconfigured from the existing length of approximately 43 feet and a width of 15 feet to a future length of 29 feet and a width of 12 feet. The south portion of the east crosswalk will be reconfigured from the existing length of approximately 32 feet and a width of 15 feet to a future length of 52 feet and a width of 12 feet. These geometric changes and the future signal timing changes described under the 2029 No Action condition traffic analysis have been incorporated into the 2029 No Action pedestrian analysis. Changes in the configuration of the north crosswalk at this intersection subsequent to the publication of the DEIS have been incorporated in the analysis.

STREET-LEVEL PEDESTRIAN OPERATIONS

A summary of the 2029 No Action pedestrian analysis results is presented in **Table 12-43**. As shown in **Tables 12-44 through 12-46**, with the exception of the following locations, all sidewalk, corner reservoir, and crosswalk analysis locations will operate at acceptable LOS C or better service levels (40.0 SFP platoon flows for sidewalks; minimum of 24.0 SFP for corners and crosswalks), except for the following locations:

The south segment of the east crosswalk of East Tremont Avenue and Boston Road/West Farms Road, which will operate at LOS F with 1.5 SFP, to LOS E with 9.5 SFP, and to LOS F with 7.3 SFP in the weekday AM, midday, and PM peak hours, respectively.

The north segment of the east crosswalk of East Tremont Avenue and Boston Road/West Farms Road, which will operate at LOS F with 6.5 SFP in the weekday AM peak hour, LOS E with 14.9 SFP in the weekday midday peak hour, and LOS E with 13.7 SFP in the weekday PM peak hour

Table 12-43
Summary of 2029 No Action Conditions Pedestrian Analysis Results

Level of Service	Analysis Peak Hours		
	Weekday AM	Weekday Midday	Weekday PM
Sidewalks			
Sidewalks at LOS A/B/C	15	15	15
Sidewalks at LOS D	0	0	0
Sidewalks at LOS E	0	0	0
Sidewalks at LOS F	0	0	0
Total	15	15	15
Corner Reservoirs			
Corners at LOS A/B/C	8	8	8
Corners at LOS D	0	0	0
Corners at LOS E	0	0	0
Corners at LOS F	0	0	0
Total	8	8	8
Crosswalks			
Crosswalks at LOS A/B/C	5	5	5
Crosswalks at LOS D	0	0	0
Crosswalks at LOS E	0	2	1
Crosswalks at LOS F	2	0	1
Total	7	7	7

Note: LOS = Level-of-Service.

Table 12-44
2029 No Action Conditions: Sidewalk Analysis

Location	Sidewalk	Effective Width (ft)	Two-way Peak Hour Volume	PHF	SFP	Platoon LOS
Weekday AM Peak Hour						
Boston Road between East 180th Street and East 179th Street	West-North	4.5	323	0.80	176.2	B
	West-South	11.5	331	0.80	440.1	B
	East-North	12.5	198	0.89	892.8	A
	East-South	10.5	198	0.89	749.9	A
Boston Road between East 180th Street and Bronx Park South	West	8.5	99	0.80	1088.0	A
East 180th Street between Bryant Avenue and Boston Road	North	6.5	210	0.80	392.1	B
Boston Road between East 179th Street and East 178th Street	East	13.5	271	0.82	644.2	A
	West	13.5	525	0.90	364.9	B
East 179th Street between Bryant Avenue and Boston Road	North-East	5.0	168	0.80	377.0	B
	North-West	5.0	159	0.80	398.4	B
Boston Road between East 178th Street and East Tremont Avenue	East-North	14.5	785	0.83	242.5	B
	East-South	10.0	958	0.83	136.8	B
	West	4.5	960	0.98	72.3	C
East Tremont Avenue between Boston Road and Bronx Street	North	22.0	398	0.80	700.4	A
East Tremont Avenue between Bronx Street and East 177th Street	North	12.0	397	0.80	382.9	B
Weekday Midday Peak Hour						
Boston Road between East 180th Street and East 179th Street	West-North	4.5	114	0.94	590.4	A
	West-South	11.5	119	0.94	1445.7	A
	East-North	12.5	77	0.80	2057.1	A
	East-South	10.5	79	0.80	1684.2	A
Boston Road between East 180th Street and Bronx Park South	West	8.5	33	0.80	3264.0	A
East 180th Street between Bryant Avenue and Boston Road	North	6.5	127	0.88	709.3	A
Boston Road between East 179th Street and East 178th Street	East	13.5	403	0.80	424.4	B
	West	13.5	392	0.92	503.3	B
East 179th Street between Bryant Avenue and Boston Road	North-East	5.0	111	0.80	570.7	A
	North-West	5.0	106	0.80	597.6	A
Boston Road between East 178th Street and East Tremont Avenue	East-North	14.5	736	0.80	249.4	B
	East-South	10.0	865	0.80	146.1	B
	West	4.5	502	0.80	113.1	B
East Tremont Avenue between Boston Road and Bronx Street	North	22.0	513	0.80	543.3	A
East Tremont Avenue between Bronx Street and East 177th Street	North	12.0	511	0.80	297.4	B
Weekday PM Peak Hour						
Boston Road between East 180th Street and East 179th Street	West-North	4.5	294	0.80	193.7	B
	West-South	11.5	294	0.80	495.6	B
	East-North	12.5	157	0.80	1008.9	A
	East-South	10.5	158	0.80	842.1	A
Boston Road between East 180th Street and Bronx Park South	West	8.5	65	0.98	2031.5	A
East 180th Street between Bryant Avenue and Boston Road	North	6.5	253	0.80	325.4	B
Boston Road between East 179th Street and East 178th Street	East	13.5	311	0.83	568.9	A
	West	13.5	415	0.97	499.4	B
East 179th Street between Bryant Avenue and Boston Road	North-East	5.0	148	0.90	480.7	B
	North-West	5.0	138	0.90	516.4	B
Boston Road between East 178th Street and East Tremont Avenue	East-North	14.5	470	0.80	390.8	B
	East-South	10.0	640	0.80	197.7	B
	West	4.5	647	0.80	87.5	C
East Tremont Avenue between Boston Road and Bronx Street	North	22.0	332	0.85	889.2	A
East Tremont Avenue between Bronx Street and East 177th Street	North	12.0	331	0.85	488.0	B

Note: SFP = square feet per pedestrian.

Table 12-45
2029 No Action Conditions: Corner Analysis

Location	Corner	Weekday AM Peak Hour		Weekday Midday Peak Hour		Weekday PM Peak Hour	
		SFP	LOS	SFP	LOS	SFP	LOS
East 180th Street and Boston Road	Northwest	596.4	A	1203.9	A	653.9	A
	Northeast	922.7	A	1702.2	A	1059.1	A
	Southwest	486.0	A	797.0	A	643.1	A
	Southeast	639.2	A	1063.1	A	749.6	A
East 178th Street and Boston Road	Northwest	203.0	A	430.2	A	318.5	A
	Southwest	168.8	A	342.5	A	301.6	A
East Tremont Avenue and Boston Road/West Farms Road	Northwest	113.6	A	188.5	A	114.3	A
	Southeast	272.8	A	453.0	A	518.4	A

Note: SFP = square feet per pedestrian.

Table 12-46
2029 No Action Conditions: Crosswalk Analysis

Location	Crosswalk	Crosswalk Length (ft)	Crosswalk Width (ft)	2-way Peak Hour Volume	SFP	LOS
Weekday AM Peak Hour						
East 180th Street and Boston Road	West	50	18	163	286.2	A
East 178th Street and Boston Road	North	43	16	198	107.3	A
	South	42	15	204	93.1	A
	West	34	16	297	222.1	A
East Tremont Avenue and Boston Road/West Farms Road*	North	~~60~~42	12	233	~~73.3~~66.0	A
	East (North Segment)	29	12	1,175	6.5	F
	East (South Segment)	52	12	1,064	1.5	F
Weekday Midday Peak Hour						
East 180th Street and Boston Road	West	50	18	102	456.4	A
East 178th Street and Boston Road	North	43	16	127	269.5	A
	South	42	15	185	142.1	A
	West	34	16	149	378.6	A
East Tremont Avenue and Boston Road/West Farms Road*	North	~~60~~42	12	137	~~87.2~~76.6	A
	East (North Segment)	29	12	613	14.9	E
	East (South Segment)	52	12	516	9.5	E
Weekday PM Peak Hour						
East 180th Street and Boston Road	West	50	18	172	302.9	A
East 178th Street and Boston Road	North	43	16	126	166.5	A
	South	42	15	175	108.1	A
	West	34	16	176	355.4	A
East Tremont Avenue and Boston Road/West Farms Road*	North	~~60~~42	12	167	~~95.2~~83.3	A
	East (North Segment)	29	12	689	13.7	E
	East (South Segment)	52	12	596	7.3	F

Notes: SFP = square feet per pedestrian.
*Based on the future intersection design, the east crosswalk was analyzed as two segments. The north segment of the east crosswalk includes pedestrian volumes from both the north and east (south segment) crosswalks.

THE FUTURE WITH THE PROPOSED PROJECT

Project-generated pedestrian volumes were assigned to the pedestrian network considering current land uses in the area, population distribution, nearby parking locations, available transit services, and surrounding pedestrian facilities. In addition, the relocation of the existing early education facility from Parcel 3 (accessed from East 178th Street and East 179th Street, west of Boston Road) to Parcel 1 (accessed from Boston Road between Bronx Park South and East 180th Street) was accounted for in the assignment of pedestrian trips. The hourly incremental pedestrian volumes presented above in Section D, "Level 2 Screening Assessment," were added to the projected 2029 No Action volumes to generate the 2029 With Action pedestrian volumes for analysis (see **Figures 12-27 through 12-29**).

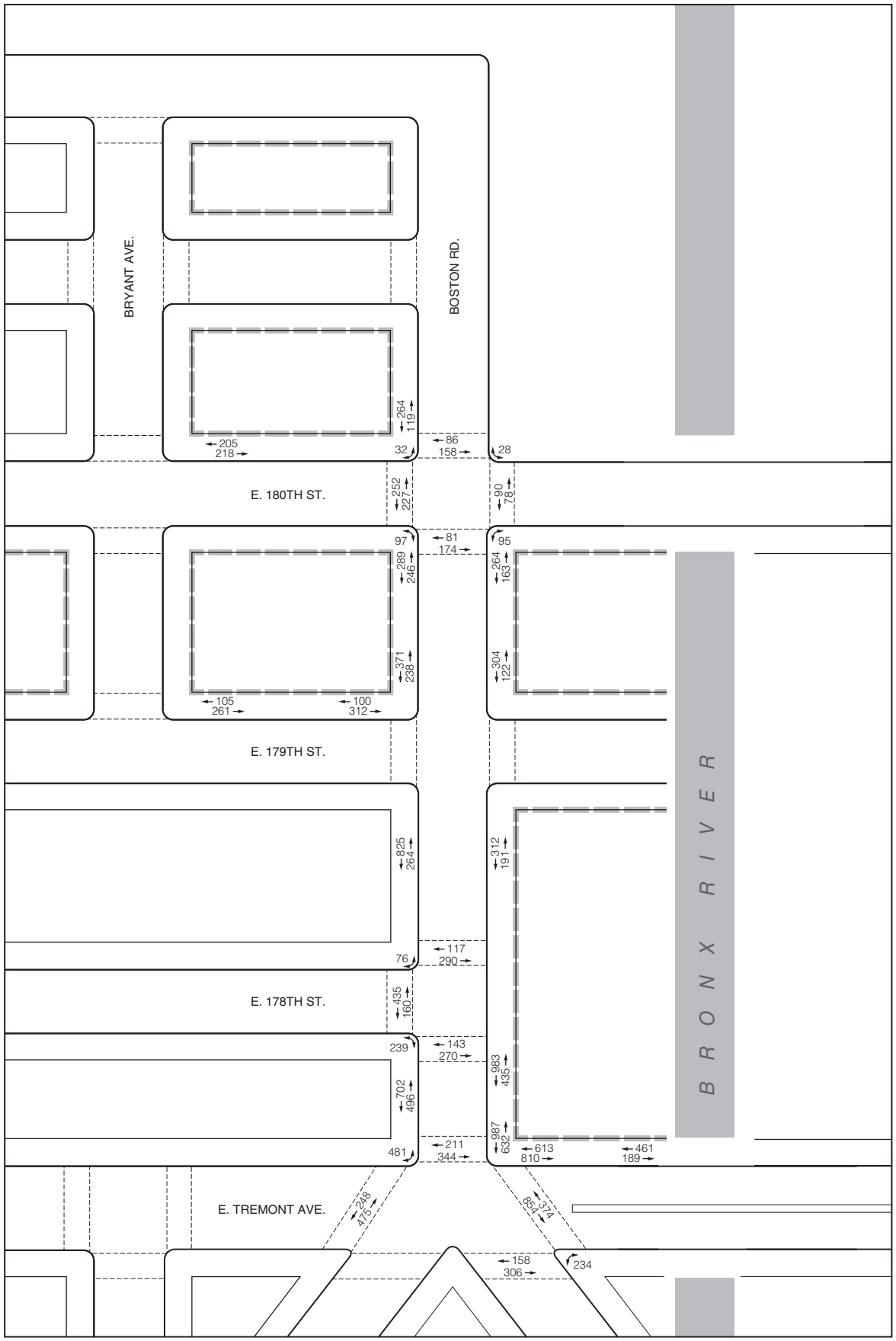
STREET-LEVEL PEDESTRIAN OPERATIONS AND SIGNIFICANT ADVERSE IMPACTS

The proposed project will result in changes in building setbacks that affect the dimensions of existing sidewalks in the study area. For analysis purposes, the following changes in sidewalk dimensions were incorporated within the study area in the With Action pedestrian analysis (i.e., increase or decrease in effective sidewalk width and corner reservoir areas):

- A four-foot decrease in sidewalk width along the west sidewalk of Boston Road between East 180th Street and Bronx Park South;
- A four-foot decrease in sidewalk width along the east sidewalk of Boston Road between East 180th Street and East 179th Street;
- A five-foot decrease in sidewalk width along the west sidewalk of Boston Road between East 180th Street and East 179th Street;
- A two-foot decrease in the width of the east sidewalk of Boston Road both south of East 179th Street and north of East Tremont Avenue;
- A five-foot decrease in the width of the north sidewalk of East Tremont Avenue between Boston Road and Bronx Street, and
- A two-foot increase in the width of the north sidewalk of East 179th Street between Bryant Avenue and Boston Road.

In cases where the sidewalk width decreases in the With Action condition due to changes in building setbacks, and there currently is an obstruction on the building side of the sidewalk, such as a tree pit, the With Action pedestrian analysis assumes that the existing sidewalk obstruction would be removed from the sidewalk under the 2029 With Action Condition.

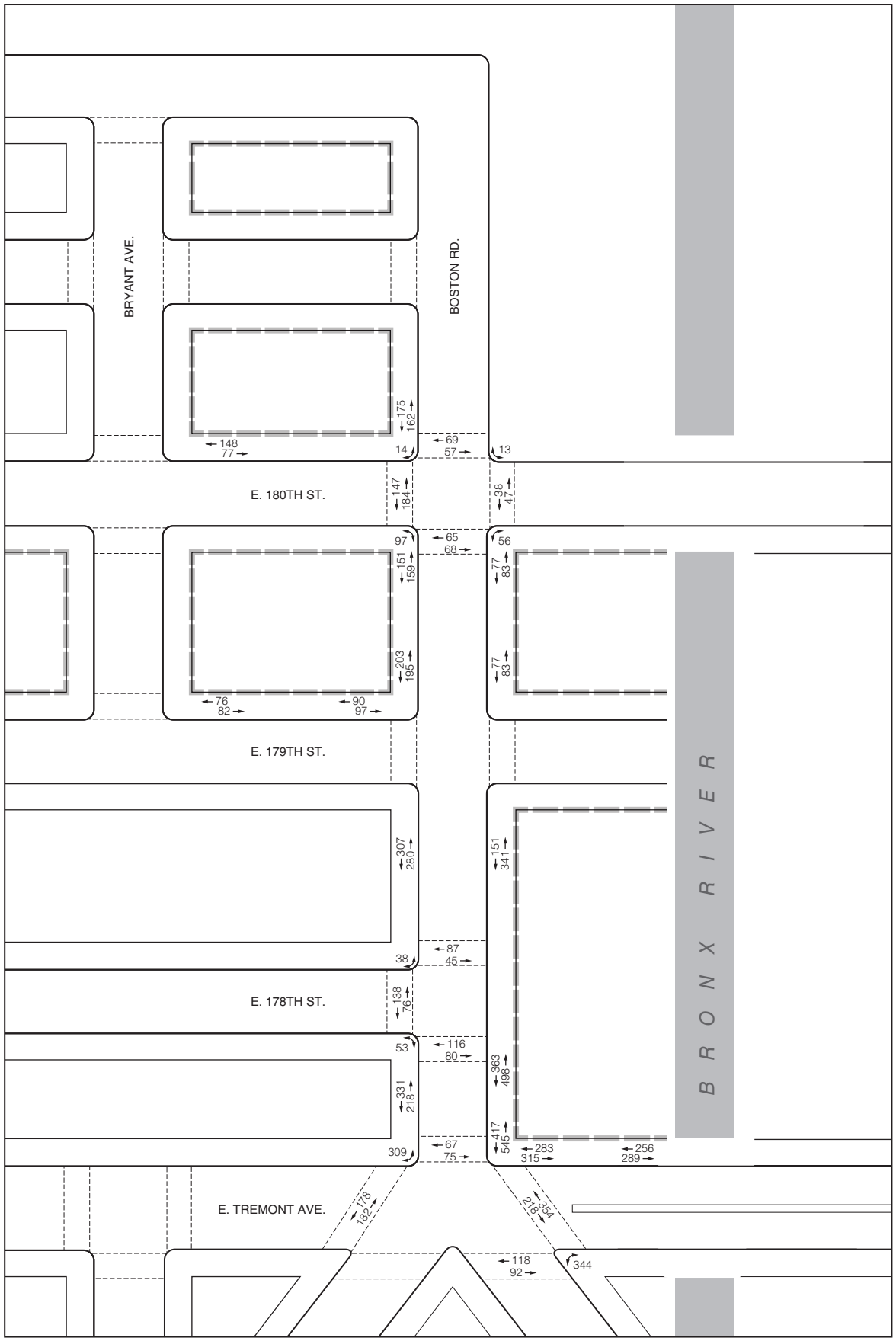
A summary of the 2029 With Action Condition pedestrian analysis results is presented in **Table 12-47**. Details on SFP and level-of-service are presented in **Tables 12-48 through 12-50**. Based on the *CEQR Technical Manual* sliding scale impact thresholds, significant adverse pedestrian impacts, as detailed below, were identified for two ~~segments of one crosswalk~~crosswalks, one of which has two separate segments, during the weekday peak hours. Potential measures that can be implemented to mitigate these significant adverse pedestrian impacts are discussed in Chapter 21, "Mitigation."



Development Site

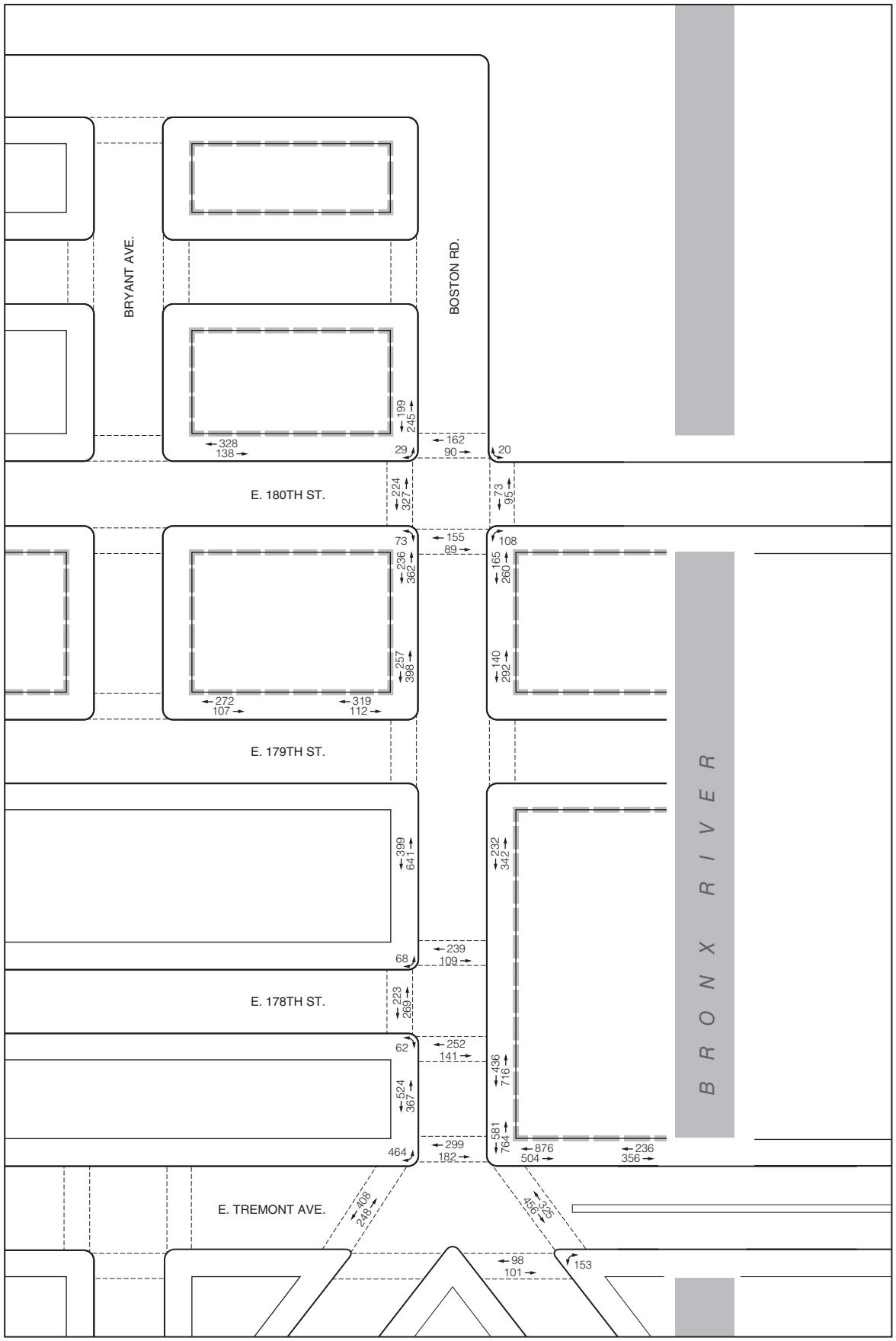
2029 With Action Pedestrian Volumes
Weekday AM Peak Hour

Figure 12-27



Development Site

2029 With Action Pedestrian Volumes
Weekday Midday Peak Hour



Development Site

2029 With Action Pedestrian Volumes
Weekday PM Peak Hour

PHIPPS LAMBERT HOUSES

Figure 12-29

Table 12-47
Summary of 2029 With Action Conditions Pedestrian Analysis Results

Level of Service	Analysis Peak Hours		
	Weekday AM	Weekday Midday	Weekday PM
Sidewalks			
Sidewalks at LOS A/B/C	15	15	15
Sidewalks at LOS D	0	0	0
Sidewalks at LOS E	0	0	0
Sidewalks at LOS F	0	0	0
Total	15	15	15
Corner Reservoirs			
Corners at LOS A/B/C	8	8	8
Corners at LOS D	0	0	0
Corners at LOS E	0	0	0
Corners at LOS F	0	0	0
Total	8	8	8
Crosswalks			
Crosswalks at LOS A/B/C	~~5~~4	5	~~5~~4
Crosswalks at LOS D	~~0~~1	0	~~0~~1
Crosswalks at LOS E	0	2	0
Crosswalks at LOS F	2	0	2
Total	7	7	7

Note: LOS = Level-of-Service.

Table 12-48
2029 With Action Conditions: Sidewalk Analysis

Location	Sidewalk	Effective Width (ft)	Two-way Peak Hour Volume	PHF	SFP	Platoon LOS
Weekday AM Peak Hour						
Boston Road between East 180th Street and East 179th Street	West-North	4.5	535	0.80	106.1	B
	West-South	6.5	609	0.80	134.8	B
	East-North	12.5	427	0.89	413.9	B
	East-South	10.5	426	0.89	348.4	B
Boston Road between East 180th Street and Bronx Park South	West	8.5	383	0.80	281.0	B
East 180th Street between Bryant Avenue and Boston Road	North	6.5	423	0.80	194.4	B
Boston Road between East 179th Street and East 178th Street	East	11.5	503	0.82	295.5	B
	West	13.5	1,089	0.90	175.7	B
East 179th Street between Bryant Avenue and Boston Road	North-East	7.0	412	0.80	215.0	B
	North-West	7.0	366	0.80	242.1	B
Boston Road between East 178th Street and East Tremont Avenue	East-North	14.5	1,418	0.83	134.0	B
	East-South	8.0	1,619	0.83	64.1	C
	West	4.5	1,198	0.98	57.6	C
East Tremont Avenue between Boston Road and Bronx Street	North	17.0	1,423	0.80	151.0	B
East Tremont Avenue between Bronx Street and East 177th Street	North	12.0	650	0.80	233.7	B
Weekday Midday Peak Hour						
Boston Road between East 180th Street and East 179th Street	West-North	4.5	310	0.94	216.9	B
	West-South	6.5	398	0.94	244.1	B
	East-North	12.5	160	0.80	989.9	A
	East-South	10.5	160	0.80	831.5	A
Boston Road between East 180th Street and Bronx Park South	West	8.5	337	0.80	319.5	B
East 180th Street between Bryant Avenue and Boston Road	North	6.5	225	0.88	400.3	B
Boston Road between East 179th Street and East 178th Street	East	13.5	587	0.92	336.0	B
	West	11.5	492	0.80	296.0	B
East 179th Street between Bryant Avenue and Boston Road	North-East	7.0	187	0.80	474.2	B
	North-West	7.0	158	0.80	561.3	B
Boston Road between East 178th Street and East Tremont Avenue	East-North	14.5	861	0.80	213.2	B
	East-South	8.0	962	0.80	104.9	B
	West	4.5	549	0.80	103.3	B
East Tremont Avenue between Boston Road and Bronx Street	North	17.0	598	0.80	360.1	B
East Tremont Avenue between Bronx Street and East 177th Street	North	12.0	545	0.80	278.8	B

Table 12-48 (cont'd)
2029 With Action Conditions: Sidewalk Analysis

Location	Sidewalk	Effective Width (ft)	Two-way Peak Hour Volume	PHF	SFP	Platoon LOS
Weekday PM Peak Hour						
Boston Road between East 180th Street and East 179th Street	West-North	4.5	598	0.80	94.8	B
	West-South	6.5	466	0.80	176.4	B
	East-North	12.5	425	0.80	372.6	B
	East-South	10.5	432	0.80	307.8	B
Boston Road between East 180th Street and Bronx Park South	West	8.5	444	0.98	297.2	B
East 180th Street between Bryant Avenue and Boston Road	North	6.5	466	0.80	176.4	B
Boston Road between East 179th Street and East 178th Street	East	11.5	574	0.83	262.4	B
	West	13.5	1,040	0.97	199.1	B
East 179th Street between Bryant Avenue and Boston Road	North-East	7.0	431	0.90	230.9	B
	North-West	7.0	379	0.90	263.1	B
Boston Road between East 178th Street and East Tremont Avenue	East-North	14.5	1,152	0.80	159.2	B
	East-South	8.0	1,345	0.80	74.7	C
	West	4.5	891	0.80	63.2	C
East Tremont Avenue between Boston Road and Bronx Street	North	17.0	1,380	0.85	165.0	B
East Tremont Avenue between Bronx Street and East 177th Street	North	12.0	592	0.85	272.7	B

Note: SFP = square feet per pedestrian.

Table 12-49
2029 With Action Conditions: Corner Analysis

Location	Corner	Weekday AM Peak Hour		Weekday Midday Peak Hour		Weekday PM Peak Hour	
		SFP	LOS	SFP	LOS	SFP	LOS
East 180th Street and Boston Road	Northwest	170.3	A	311.0	A	170.2	A
	Northeast	504.2	A	966.4	A	485.6	A
	Southwest	150.7	A	248.2	A	153.1	A
	Southeast	265.1	A	497.8	A	252.9	A
East 178th Street and Boston Road	Northwest	98.8	A	351.9	A	124.9	A
	Southwest	94.1	A	288.4	A	125.2	A
East Tremont Avenue and Boston Road/West Farms Road	Northwest	77.8	A	183.0	A	78.8	A
	Southeast	247.7	A	429.5	A	430.7	A

Note: SFP = square feet per pedestrian.

Table 12-50
2029 With Action Conditions: Crosswalk Analysis

Location	Crosswalk	Crosswalk Length (ft)	Crosswalk Width (ft)	2-way Peak Hour Volume	SFP	LOS
Weekday AM Peak Hour						
East 180th Street and Boston Road	West	50	18	479	94.0	A
East 178th Street and Boston Road	North	43	16	407	50.3	B
	South	42	15	413	44.2	B
	West	34	16	595	107.6	A
East Tremont Avenue and Boston Road/West Farms Road	North	~~60~~42	12	555	**~~26.4~~2.3**	**~~C~~D+**
	East (North Segment)	29	12	1,661	**4.3**	**F+**
	East (South Segment)	52	12	1,228	**0.8**	**F+**
Weekday Midday Peak Hour						
East 180th Street and Boston Road	West	50	18	331	137.6	A
East 178th Street and Boston Road	North	43	16	132	259.1	A
	South	42	15	196	133.9	A
	West	34	16	214	262.3	A
East Tremont Avenue and Boston Road/West Farms Road	North	~~60~~42	12	142	~~80.7~~6 9.4	A
	East (North Segment)	29	12	674	**13.3**	**E+**
	East (South Segment)	52	12	572	**8.0**	**E+**
Weekday PM Peak Hour						
East 180th Street and Boston Road	West	50	18	551	91.0	A
East 178th Street and Boston Road	North	43	16	348	58.0	B
	South	42	15	393	46.3	B
	West	34	16	492	123.6	A
East Tremont Avenue and Boston Road/West Farms Road	North	~~60~~42	12	481	**~~27.7~~2.3**	**~~C~~D+**
	East (North Segment)	29	12	1,188	**6.9**	**F+**
	East (South Segment)	52	12	781	**4.7**	**F+**

Notes: SFP = square feet per pedestrian.
Bold and "+" denote a significant adverse impact.

Crosswalks

- The south segment of the east crosswalk of Boston Road and East Tremont Avenue would deteriorate from LOS F with 1.5 SFP, LOS E with 9.5 SFP, and LOS F with 7.3 SFP to LOS F with 0.8 SFP, LOS E with 8.0 SFP, and LOS F with 4.7 SFP during the weekday AM, midday, and PM peak hours, respectively. These degradations in pedestrian operations constitute significant adverse impacts.
- The north segment of the east crosswalk of Boston Road and East Tremont Avenue would deteriorate from LOS F with 6.5 SFP, LOS E with 14.9 SFP, and LOS E with 13.7 SFP to LOS F with 4.3 SFP, LOS E with 13.3 SFP, and LOS F with 6.9 SFP in the weekday AM,

midday, and PM peak hours, respectively. These degradations in pedestrian operations constitute significant adverse impacts.

- The north crosswalk of Boston Road would deteriorate from LOS A with 66.0 SFP and LOS A with 83.3 SFP to LOS D with 22.3 SFP and LOS D with 22.3 SFP in the weekday AM and PM peak hours, respectively. These degradations in pedestrian operations constitute significant adverse impacts. This finding accounts for the changes in the configuration of the north crosswalk subsequent to the publication of the DEIS.

G. VEHICULAR AND PEDESTRIAN SAFETY EVALUATION

Crash data for the study area intersections were obtained from the NYSDOT for the period between May 1, 2011 and April 30, 2014. The data obtained quantify the total number of reportable accidents (involving fatality, injury, or more than $1,000 in property damage), fatalities, and injuries during the study period, as well as a yearly breakdown of vehicular crashes with pedestrians and bicycles at each location.

During the ~~three-year period between May 1,~~ 2011 to ~~and April 30,~~ 2014 period~~*~~, a total of ~~134~~ 143 reportable and non-reportable accidents, zero fatalities, ~~143~~ 157 injuries, and ~~43~~ 52 pedestrian/bicyclist-related accidents occurred at the study area intersections. A rolling total of accident data identifies two study area intersections as high accident locations in the 2011 to 2014 period; these are East Tremont Avenue at Boston Road/West Farms Road and East 180th Street at Boston Road. **Table 12-51** depicts total accident characteristics by intersection during the study period, as well as a breakdown of pedestrian and bicycle accidents by year and location. **Table 12-52** shows a detailed description of each pedestrian/bicyclist-related accident at the high accident locations listed above during the three-year period.

EAST TREMONT AVENUE AND BOSTON ROAD/WEST FARMS ROAD

Based on the review of the accident history at the intersection of East Tremont Avenue and Boston Road/West Farms Road, no prevailing trends with regard to geometric deficiencies were identified as the primary causes of recorded accidents. With respect to geometric deficiencies that could potentially cause safety hazards, the intersection of East Tremont Avenue and Boston Road/West Farms Road is signalized and provides five school crosswalks. In addition, countdown timers are posted on all crosswalks and pedestrian safety assemblies mark all the intersection approaches. In terms of project-generated activity, this intersection would experience incremental peak-hour volume increases of approximately 175 or fewer vehicle trips and 320 or fewer pedestrians at any crosswalk during each of the three analysis peak hours. Restriping the intersection's five crosswalks could enhance visibility and delineation of pedestrian space for both motorists and pedestrians.

Table 12-51
Accident Summary

Intersection		Study Period						Accidents by Year							
North-South Roadway	East-West Roadway	All Accidents by Year				Total Fatalities	Total Injuries	Pedestrian				Bicycle			
		2011	2012	2013	2014			2011	2012	2013	2014	2011	2012	2013	2014
Daly Avenue	E. Tremont Avenue	2	8	0	0	0	12	1	2	0	0	1	0	0	0
Vyse Avenue	E. Tremont Avenue	2	2	2	0	0	9	1	0	1	0	0	0	0	0
Bryant Avenue	E. Tremont Avenue	1	1	2	0	0	3	0	0	1	0	0	0	0	0
Boston Road/ W. Farms Road	**E. Tremont Avenue***	~~9~~10	~~10~~8	13	~~2~~12	0	~~33~~47	2	~~2~~3	5	~~0~~5	1	~~1~~0	~~3~~4	~~0~~3
E. 177th Street	E. Tremont Avenue	0	0	3	0	0	4	0	0	0	0	0	0	0	0
Devoe Avenue	E. Tremont Avenue	6	3	2	0	0	10	0	0	1	0	0	0	0	0
Boston Road	E. 178th Street	0	3	1	0	0	9	0	1	1	0	0	1	0	0
Boston Road	E. 179th Street	2	0	3	0	0	6	1	0	3	0	0	0	0	0
Boston Road	**E. 180th Street**	3	5	9	0	0	18	0	0	5	0	0	2	2	0
Vyse Avenue	E. 181st Street	1	1	0	0	0	2	0	0	0	0	0	1	0	0
Devoe Avenue	E. 180th Street	1	2	3	0	0	7	1	1	2	0	0	0	0	0
Devoe Avenue	Lebanon Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Devoe Avenue	E. 179th Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Devoe Avenue	Wyatt Street	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Devoe Avenue	Sheridan Expressway/ E. 177th Street	3	3	4	0	0	11	0	0	0	0	0	0	0	0
Bronx Park Avenue	E. 177th Street	5	9	6	1	0	19	0	0	0	0	0	0	0	0

Note: **Bold** intersections are high accident locations.
Source: NYSDOT May 1, 2011 through April 30, 2014 accident data. Crash data for the intersection of East Tremont Avenue and Boston Road/West Farms Road provided by NYCDOT for the period from January 1, 2011 to December 31, 2014.

Table 12-52
Vehicle and Pedestrian Accident Details

Intersection	Year	Date	Time	Accident Class		Action of Vehicle	Action of Pedestrian	Cause of Accident			
				Injured	Killed			Left / Right Turns	Pedestrian Error/ Confusion	Driver Inattention	Other
E. Tremont Avenue and Boston Road/ W. Farms Road	2011	6/223/6	22:4015 :30 PM	X		Making left turn – SouthGoing straight – North	Crossing against signalPlaying in roadway	X	X		
		10/9	00:30 AM	X		Going straight – North	Crossing with signal				Unknown
		12/6	9:30 AM	X		Backing – West	Unknown			X	Backing Unsafely
	2012	6/22	10:00 AM	X		Going straight – North	Unknown				Unknown
		7/4	18:06 PM	X		Going straight – East	Crossing with signal				Aggressive Driving/Road Rage, Failure to yield R.o.W.
		7/78/7	00:10 AM2:00 AM	X		Backing – EastMaking left turn – Unknown	Crossing, no signal or crossxwalkUnknown	X			Unknown
	2013	1/25	9:00 AM	X		Going straight – South	Crossing/ No signal/ Marked crosswalk				Unknown
		3/14	14:59 PM	X		Going straight – North	Crossing/ No signal or crosswalk		X		
		5/17	9:42 AM	X		Going straight – East	Going straight – East		X		
		5/17	9:44 AM	X		Avoiding object in roadway – East	Along Highway with traffic				Unknown
		6/18	19:00 PM	x		Making right turn – North	Crossing against signal	X	X		
		8/27	23:40 PM	X		Going straight – East	Going straight – South				Unknown
		10/7	20:00 PM	X		Unknown – East	Unknown				Unknown
		10/9	15:00 PM	X		Going straight – South	Crossing against signal		X		
		11/26	17:48 PM	X		Making left turn – North	Crossing with signal	X			
	2014	1/11	16:55 PM	X		Going straight – West	Crossing no signal, marked crosswalk				Unknown
		7/27	19:16 PM	X		Going straight – South	Crossing against signal		X		
		9/19	19:00 PM	X		Going straight – West	Crossing with signal				Unknown
		9/24	8:59 AM	X		Starting in traffic = West	Crossing against signal		X		
		11/4	10:00 AM	X		Going straight – North	Crossing, no signal or crossxwalk		X		
		11/17	23:00 PM	X		Going straight – North	Crossing with signal				X
		12/3	8:07 AM	X		Going straight – West	Crossing against signal		X		
		12/5	16:27 PM	X		Making right turn = East	Not in roadway	X			

Table 12-52 (cont'd)
Vehicle and Pedestrian Accident Details

Intersection	Year	Date	Time	Accident Class		Action of Vehicle	Action of Pedestrian	Cause of Accident			
				Injured	Killed			Left / Right Turns	Pedestrian Error/ Confusion	Driver Inattention	Other
E. 180th Street and Boston Road	2012	6/18	11:20 AM	X		Going straight – North	Emerge from behind parked vehicle		X		
		12/8	2:30 AM	X		Making left turn – South	Crossing against signal	X	X		
	2013	2/15	23:40 PM	X		Going straight – East	Crossing with signal				Unknown
		3/9	19:05 PM	X		Going straight – East	Crossing with signal				Unknown
		6/20	21:15 PM	X		Making left turn on red – West	Crossing with signal	X			Turning improper, Failure to yield R.o.W.
		7/20	13:30 PM	X		Going straight – East	Crossing with signal				Unknown
		7/20	13:30 PM	X		Going straight – North	Crossing against signal		X		
		11/4	17:50 PM	X		Making right turn – East	Crossing with signal	X			Failure to yield R.o.W.
		11/25	11:30 AM	X		Making left turn – South	Crossing with signal	X		X	

EAST 180TH STREET AND BOSTON ROAD

Based on the review of the accident history at the intersection of East 180th Street and Boston Road, no prevailing trends with regard to geometric deficiencies were identified as the primary causes of recorded accidents. With respect to geometric deficiencies that could potentially cause safety hazards, the intersection of East 180th Street and Boston Road is signalized and provides four high visibility crosswalks. In addition, countdown timers are posted on all crosswalks and pedestrian safety assemblies mark the north, east, and west approaches. In terms of project-generated activity, this intersection would experience incremental peak-hour volume increases of approximately 130 or fewer vehicle trips and 340 or fewer pedestrians at any crosswalk during each of the three analysis peak hours. ~~As described in Chapter 21, "Mitigation," the predicted impact at this intersection could be fully mitigated with standard traffic engineering measures. Therefore, the proposed project is not anticipated to exacerbate any of the current causes of pedestrian-related accidents.~~ R~~N~~onetheless, ~~r~~restriping of the intersection's north, east, and south crosswalks could enhance visibility and delineation of pedestrian space for both motorists and pedestrians.

In 2014, New York City announced the Vision Zero Action Plan with the goal of eliminating traffic deaths and injuries and improving the safety of all users of the city's streets. The Vision Zero Action Plan called for borough wide pedestrian safety action plans to identify priority corridors and intersections with the highest rates of pedestrian fatality and severe injury, and in combination with safety engineering improvement projects, community outreach and education, and police enforcement, seek to eventually eliminate pedestrian fatalities and severe injuries across all boroughs. The Bronx Vision Zero Pedestrian Safety Action Plan identified priority corridors (including the East Tremont Avenue corridor in the study area) and intersections in the Bronx and an action plan that includes a variety of improvement measures and initiatives. They include safety engineering improvement projects at priority corridors and intersections, installing Leading Pedestrian Intervals (LPIs) at feasible crosswalks, modify signal timing to reduce off-peak speeding on priority corridors, expand the installation of speed limit signage on all priority

corridors, conduct community outreach to educate street users, install additional lighting near key transit locations, and coordination with the MTA to ensure safe bus operations. These borough wide initiatives and the specific safety improvement measurements recommended at the above two high accident locations are expected to improve pedestrian safety in the study area and borough wide.

H. PARKING ASSESSMENT

2014 EXISTING CONDITIONS

An inventory of on- and off-street parking within a ¼-mile of the Development Site was conducted in June, August, September, and October 2014. The on-street survey was conducted in September and October 2014 and involved recording curbside regulations and performing an inventory of the area's on-street parking supply and utilization during the weekday midday and overnight periods. The off-street survey was conducted in June and August 2014 and provided an inventory of the area's public parking facilities and their legal capacities and weekday daytime and overnight utilization.

ON-STREET PARKING

Curbside parking regulations within a ¼-mile of the Development Site are illustrated in **Figure 12-30** and summarized in **Table 12-53**. The curbside regulations in the area generally include alternate side of the street cleaning regulations and no standing or no parking during school days. Within the ¼-mile parking study area, there are approximately 1,637 (due to parking restrictions that exist during the day) and 1,760 on-street parking spaces during the weekday midday and overnight periods, respectively. Out of these, 191 and 119 spaces were available during the weekday midday and overnight periods resulting in on-street parking utilization rates of approximately 88 and 93 percent, respectively.

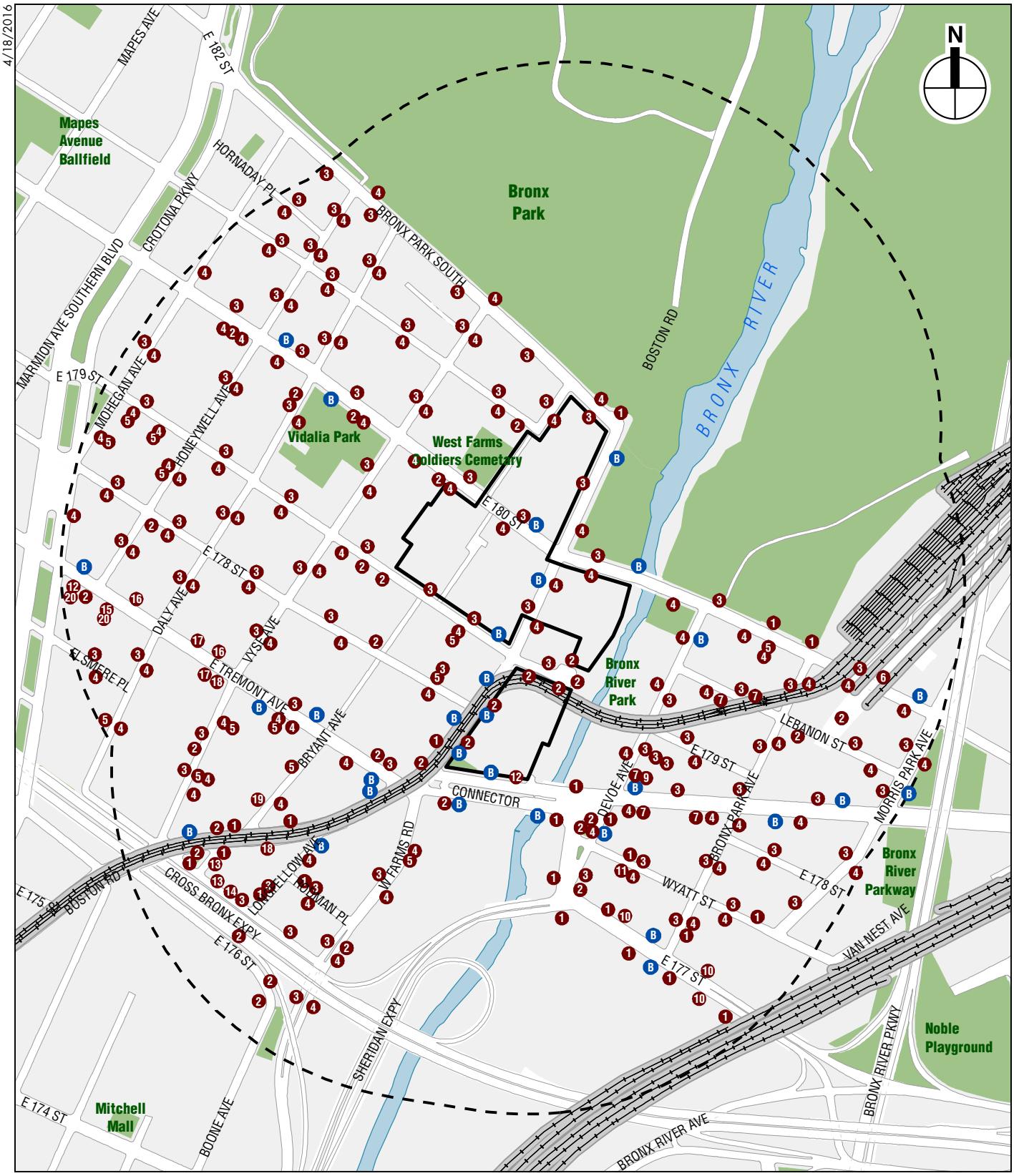
Table 12-53
On-Street Parking Regulations

No.	Regulation	No.	Regulation
1	No Standing Anytime	11	NS 6AM-6PM Except Sunday
2	No Parking Anytime	12	NP 8AM-4PM School Days
3	NP 11:30AM-1PM Mon & Thu	13	NS Except Authorized Vehicles 8AM-6PM Mon-Fri
4	NP 11:30AM-1PM Tue & Fri	14	NS Except Authorized Vehicles 8AM-8PM Ambulette Mon-Fri
5	NP 7AM-4PM School Days	15	NP 8AM-8:30AM Except Sunday
6	NS Except Authorized Vehicles	16	NP 8AM-8:30AM Mon & Thu
7	NP 8AM-6PM Mon-Fri	17	NS Fire Zone
8	NS 7AM-7PM Except Sunday	18	NP 8AM-8:30AM Tue & Fri
9	NP 8AM-6PM Except Sunday	19	NP 9:30AM-11AM Mon & Thu
10	NS 7AM-10AM Mon-Fri		

Notes: NP = No Parking; NS = No Standing; Mon = Monday; Tue = Tuesday; Wed = Wednesday; Thu = Thursday; Fri = Friday.
Source: Surveys conducted by AKRF, Inc. in September and October 2014.

OFF-STREET PARKING

Off-street publicly accessible parking lots and garages (see **Figure 12-31**) within ¼-mile of the Development Site were surveyed in June and August 2014. Each facility's operating license and legal capacity were noted. Based on responses given by parking attendants and visual inspections, where possible, estimates were made on the parking occupancy or utilization at each facility for the weekday morning, midday, evening, and overnight time periods. A summary of



Development Site

Study Area (1/4 Mile boundary)

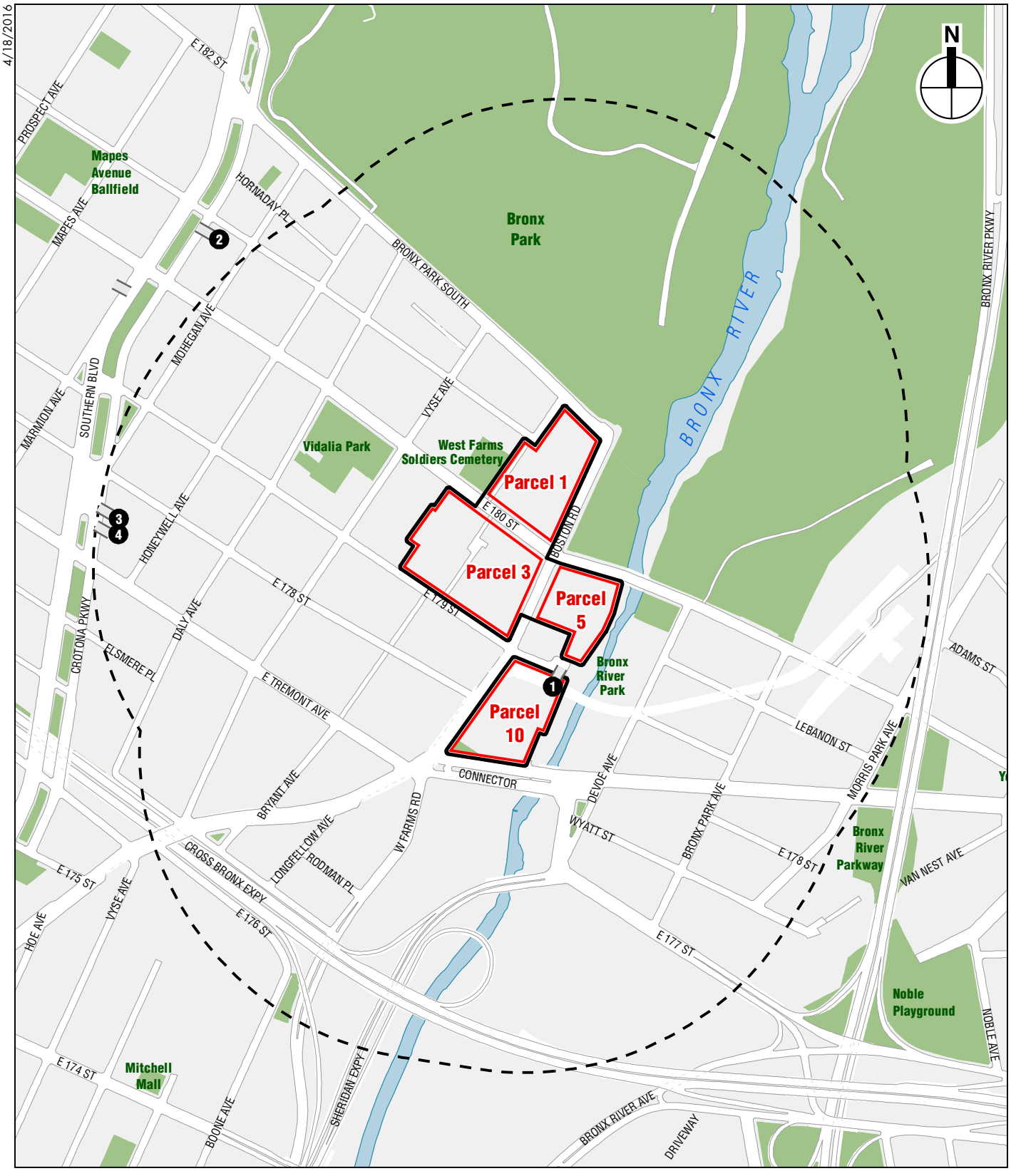
1 *On-Street Parking Regulations*

B *Bus Stop*

PHIPPS LAMBERT HOUSES

On-Street Parking Regulations

Figure 12-30



Development Site

Study Area (1/4 Mile Boundary)

1 *Off-Street Parking Location*

PHIPPS LAMBERT HOUSES

Off-Street Parking Locations

Figure 12-31

the recorded information and the area's overall off-street public parking supply and utilization is presented in **Table 12-54**.

Table 12-54
2014 Existing Off-Street Parking Utilization—1/4-Mile Study Area

Map #	Name/Address	License Number	Licensed Capacity	Utilization Rate				Utilized Spaces				Available Spaces			
				AM	MD	PM	ON	AM	MD	PM	ON	AM	MD	PM	ON
1	Central Parking System / 2020-2030 Boston Road	1223083	375	58%	61%	54%	60%	218	229	203	225	157	146	172	150
2	Star Parking / 850 East 181st Street	1464511	33	85%	85%	85%	85%	28	28	28	28	5	5	5	5
3	Jarabacoa Parking / 1976 Crotona Parkway	1157522	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4	Pantojas Parking Lot & Used Cars / 1962 Crotona Parkway	1093573	51	80%	90%	80%	CLD	41	46	41	CLD	10	5	10	CLD
			459	**63%**	**66%**	**59%**	**62%**	**287**	**303**	**272**	**253**	**172**	**156**	**187**	**155**

Notes: MD = Midday; ON = Overnight; N/A = Not Available; CLD = Closed.
Source: Survey conducted by AKRF Inc. in June and August 2014.

Within the ¼-mile parking study area, a total four public parking facilities were inventoried. However, information at one of the facilities was not available at the time of the surveys. The combined capacity of the remaining three facilities totals 459 parking spaces. Overall, they were 63, 66, 59, and 62-percent utilized, with 172, 156, 187, and 155 parking spaces available during the weekday morning, midday, evening, and overnight time periods, respectively.

OVERALL PARKING SUPPLY AND UTILIZATION

Since the proposed project is primarily a residential development project, the detailed parking analysis presented in this section was conducted only for the weekday midday and overnight time periods. Together with the on-street and off-street parking supply and utilization, the overall weekday utilization is approximately 83 percent with 347 parking spaces available; and the overall overnight utilization is approximately 87 percent with 274 parking spaces available.

THE FUTURE WITHOUT THE PROPOSED PROJECT

Overall public parking utilization is expected to experience the same growth as projected for traffic. As presented in **Table 12-55**, accounting for the parking demand generated from background growth, parking demand from discrete No Build projects anticipated to utilize on-street parking spaces and off-street public parking facilities in the ¼-mile study area, and incremental parking demand generated by the re-tenanting of the Development Site parcels, the No Action condition public parking utilization is expected to increase to 89 and 99 percent during the weekday midday and overnight peak periods, respectively, in the ¼-mile off-street parking study area.

Table 12-55
2014 Existing and 2029 No Action Parking Supply and Utilization

	Weekday Midday	Weekday Overnight
2014 Existing Public Parking Supply	2,096	2,168
2014 Existing Public Parking Demand	1,749	1,894
2014 Existing Public Parking Utilization	83%	87%
2029 No Action Public Parking Supply Total	2,096	2,168
2029 No Action Background Incremental Parking Demand	45	48
Discrete No Build Projects Total Parking Demand	79	305
Discrete No Build Projects Accessory Parking Spaces	99	99
Discrete No Build Projects Parking Demand Accommodated by Public Parking	79	206
Development Site Parcels Re-tenanting Incremental Parking Demand	1	10
Development Site Parcels Re-tenanting Incremental Parking Demand Accommodated by Public Parking	1	10
No Action Incremental Public Parking Demand	125	264
2029 No Action Public Parking Demand Total	1,874	2,158
2029 No Action Public Parking Utilization	89%	99%
2029 No Action Available Spaces (Shortfall)	222	10

Sample Calculations: No Action Incremental Public Parking Demand = 2029 No Action Background Incremental Parking Demand + Discrete No. Build Projects Parking Demand Accommodated by Public Parking + Development Site Parcels Re-tenanting Incremental Parking.
Demand Accommodated by Public Parking.
No Action Incremental Public Parking Demand for Weekday Overnight = 48 + 206 + 10 = 264.
2029 No Action Public Parking Demand Total = 2014 Existing Public Parking Demand + No Action Incremental Public. Parking Demand.
2029 No Action Public Parking Demand Total for Weekday Overnight = 1,894 + 264 = 2,158.

THE FUTURE WITH THE PROPOSED PROJECT

In the future with the proposed project, the 375-space parking garage on Parcel 10 would be reduced by 325 spaces to a 50-space rooftop parking facility. Detailed monthly parking permit information for the existing parking garage was provided by the applicant, which identified several different groups of users parking at this garage. Based on the detailed information, there are approximately 242 monthly parking permits of which approximately 64 percent of the parking spaces are for people whose addresses are in the neighborhood, 15 percent are rented by businesses, and the remaining 21 percent show addresses not in the neighborhood. Presumably the 21 percent of existing parkers outside of the neighborhood and some of the 15 percent attributed to businesses area taking advantage of the cheaper parking rates in the study area and choose to park their vehicles here. The 64 percent of these spaces are for people with addresses in the neighborhood are more indicative of the true parking demand from local residents. Therefore, it is expected that the proposed project would not only result in the displacement of 325 parking spaces, but would also result in a reduction of parking demand that would otherwise exist in the future without the proposed project. For the parking analysis, a credit of 29 percent (approximately half of those rented by businesses and all of those who show addresses not in the neighborhood) was applied to this parking facility to account for the relocation of existing parking demand to other areas. In addition, as discussed above, the proposed project would create new private streets, including segments on Bryant Avenue, as well as on East 181st Street. Approximately 60 on-street parking spaces would be created on these new private streets and would be made available to the proposed project residents.

The weekday parking demand generated by the proposed project is presented in **Table 12-56**. As presented in **Table 12-57**, accounting for the reduction in parking spaces at Parcel 10, a credit applied to the Parcel 10 parking facility for the relocation of existing parking demand to other areas, the creation of on-street parking spaces on private streets, and the incremental parking demand generated by the proposed project, the With Action condition public parking utilization is expected to increase to 103 and 115 percent during the weekday midday and overnight peak periods, respectively, in the ¼-mile off-street parking study area. This represents a parking

shortfall of 60 and 203 spaces during the weekday midday and overnight peak periods, respectively.

Table 12-56
Proposed Project Incremental Parking Demand

Hour	Residential	Supermarket	Local Retail	School: Staff	School: Students	School: Parents	Total
12 AM - 01 AM	93	0	0	0	0	0	93
01 AM - 02 AM	93	0	0	0	0	0	93
02 AM - 03 AM	93	0	0	0	0	0	93
03 AM - 04 AM	93	0	0	0	0	0	93
04 AM - 05 AM	93	0	0	0	0	0	93
05 AM - 06 AM	93	0	0	0	0	0	93
06 AM - 07 AM	93	0	0	0	0	0	93
07 AM - 08 AM	77	2	0	2	0	0	81
08 AM - 09 AM	5	4	0	19	0	0	28
09 AM - 10 AM	5	3	0	21	0	0	29
10 AM - 11 AM	5	3	0	21	0	0	29
11 AM - 12 PM	5	4	0	21	0	0	30
12 PM - 01 PM	5	4	0	21	0	0	30
01 PM - 02 PM	5	4	0	21	0	0	30
02 PM - 03 PM	5	5	0	21	0	0	31
03 PM - 04 PM	5	5	0	21	0	0	31
04 PM - 05 PM	5	6	0	21	0	0	32
05 PM - 06 PM	50	6	0	4	0	0	60
06 PM - 07 PM	69	8	0	1	0	0	78
07 PM - 08 PM	83	6	0	0	0	0	89
08 PM - 09 PM	86	3	0	0	0	0	89
09 PM - 10 PM	89	2	0	0	0	0	91
10 PM - 11 PM	93	1	0	0	0	0	94
11 PM - 12 AM	93	0	0	0	0	0	93

As described above, for proposed projects located outside of Manhattan or other CBD areas, a parking shortfall that exceeds more than half the available on-street and off-street parking spaces within a ¼-mile of the project site may be considered significant. Additional factors, such as the availability and extent of transit in the area, proximity of the project to such transit, and patterns of automobile usage by area residents, could be considered to determine the significance of the identified parking shortfall. The proposed project is located immediately adjacent to the West Farms Square/East Tremont Avenue Subway Station (Nos. 2 and 5 trains) as well as multiple local bus routes including the Bx9, Bx21, Bx36, Bx40, Bx42, and Q44.

Table 12-57
2029 No Action and With Action Parking Supply and Utilization

	Weekday Midday	Weekday Overnight
2029 No Action Public Parking Supply	2,096	2,168
2029 No Action Public Parking Demand	1,874	2,158
2029 No Action Public Parking Utilization	89%	99%
2029 No Action Public Parking Supply Total	2,096	2,168
Parcel 10 Displaced Public Parking Supply Total	-325	-325
2029 With Action Public Parking Supply Total	1,771	1,843
29% Credit for Displaced Parking Demand*	-68	-67
Proposed Project Incremental Parking Demand	30	93
Proposed Project Accessory Parking Spaces	60	60
Proposed Project Incremental Parking Demand Accommodated by Accessory Parking	5	60
Proposed Project Incremental Parking Demand Accommodated by Public Parking	25	33
2029 With Action Public Parking Demand Total	1,831	2,124
2029 With Action Public Parking Utilization	103%	115%
2029 With Action Available Spaces (Shortfall)	(60)	(281)

Note: * Credit accounts for 29% of the existing parking demand at the Parcel 10 parking facility grown to 2029 levels.
Sample Calculations: 2029 With Action Public Parking Demand Total = 2029 No Action Public Parking Demand + 29% Credit for Displaced. Parking Demand + Proposed Project Incremental Parking Demand Accommodated by Public Parking.
2029 With Action Public Parking Demand Total for Weekday Overnight = 2,158 + -67 + 33 = 2,124.

A review of the existing on-street and off-street parking supply and utilization within ½-mile of the project site showed that there would be a total of approximately 5,400 and 5,100 parking spaces during the weekday midday and overnight periods, respectively. Out of these spaces, they were approximately 88 and 84 percent utilized, with approximately 670 and 800 parking spaces available during the weekday midday and overnight time periods. It is expected that the excess demand of 60 and 281 spaces resulting from the proposed project during the weekday midday and overnight periods could be accommodated with a slightly longer walking distance beyond the ¼-mile radius.

Given the proximity of multiple transit options to the proposed project, as well as that most of the excess demand is expected to be accommodated by parking spaces outside of the ¼-mile parking study area radius, the potential parking shortfall would not constitute a significant adverse parking impact. ✷